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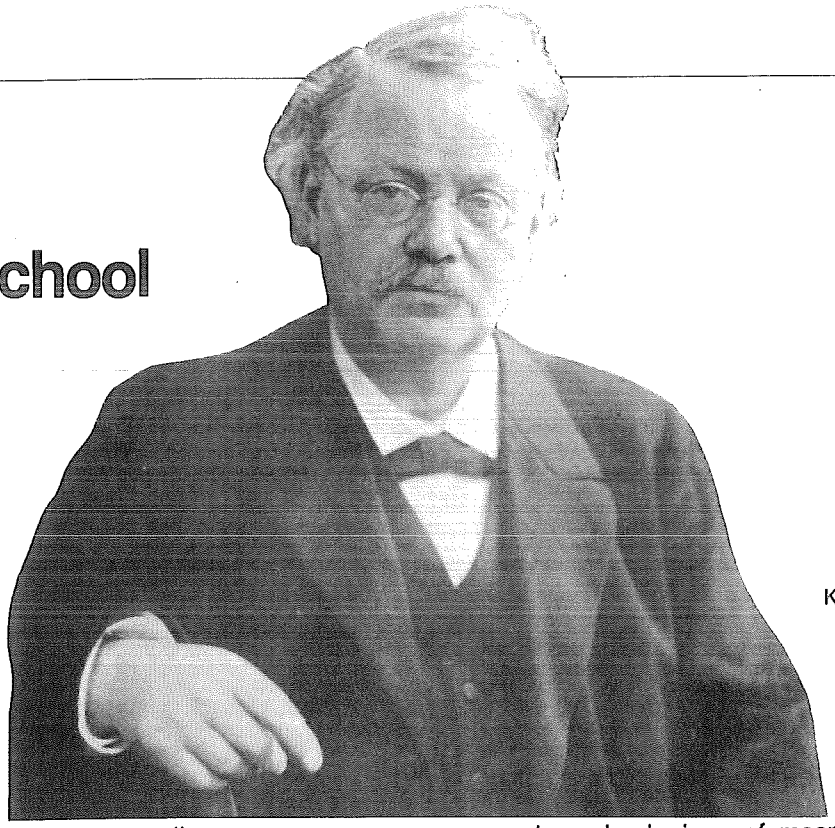
The Stockholm School of Economics: An Annotated Bibliography



Knut Wicksell

by Richard M. Ebeling

Members of the Austrian School lay claim to that title by emphasizing that the beginnings of their particular trains of thought originate with the late 19th century contributions of Carl Menger, Eugen von Böhm-Bawerk and Friedrich von Wieser.

Yet, equally influential in the development of various strands of 20th century Austrian theory were the turn-of-the-century contributions of Knut Wicksell. In the writing of *The Theory of Money and Credit,* for example, Ludwig von Mises had combined Menger's "cash balance" approach and Böhm-Bawerk's "period of production" analysis with Wicksell's distinction between a "natural" and a "money" rate of interest to devise what became known as the Austrian Theory of the Trade Cycle. In the late 1920's and 1930's, Friedrich A. Hayek, continuing Mises' work, used a concept of "stages of production" similar to that used in Wicksell's *Lectures on Political Economy* to explain how monetary forces could bring about distortions in the structure of production.

Furthermore, in the 1930's, a number of Austrians, including Hayek, Paul N. Rosenstein-Rodan, Oskar Morgenstern and Ludwig M. Lachmann, openly absorbed many of the neo-Wicksellian ideas on the problems of imperfect knowledge, expectations, "plan analysis," and the dynamics of the "cumulative process." They were soon integrating and elaborating on these insights in their own studies.

However, throughout the 1920's and 1930's, the Swedish economists who comprised what became known as the Neo-Wicksellian Stockholm School led a shadowy existence outside of Scandinavia. Though many continental economists knew of their importance because a few of the founders of the School, particularly Wicksell and Gustav Cassel, had written extensively in German, "Swedish Economics" only began filtering into the Anglo-American literature under the stimulus of Keynes' *Treatise on Money* and Hayek's *Prices and Production.* But until the Swedes finally had their own works translated into English in the latter 1930's, knowledge of the Swedish contributions were accessible only through the summaries offered by those few hearty souls who had mastered that difficult Scandinavian tongue, notably Brinley Thomas and Arthur W. Marget.

Unfortunately, when the long-awaited Swedish treasures were finally spread before the world, they were soon submerged in the tidal wave of Keynesian euphoria that was sweeping the economics profession and which resulted in many alternative schools of thought being lost at sea.

Of all the interwar schools of thought, the Stockholm School was the one closest to the Austrians in approach and interest. The Swedes, like the Austrians, were concerned with the microeconomic underpinnings of macroeconomic phenomena, i.e., the individual human plans whose interactions generated the aggregate results. And, again similar to the Austrians, they wished to move beyond the traditional "comparative statics" method and study dynamic processes, i.e., "period analysis" and the "cumulative process."

Given the recent revival of interest in the Austrian School, it seems, therefore, worthwhile to take a second look at the Stockholm School as well. With this in mind, the following bibliography is meant to serve as a stimulus to Austrians to study their fascinating intellectual 'cousins', the Swedes. Because of the limitations of space, the annotations are meant to offer only the briefest summary of the Swedish contributions. The primary references are limited almost exclusively to the Swedish works in English. Nor is this meant to be a complete bibliography of even all the Swedish literature in English.

The emphasis has been on those "Stockholm" studies that would be of interest to Austrians. (The most noticeable exclusions are the Swedish contributions to international trade theory, e.g., the works on this topic by Heckscher, Ohlin and Iverson.) Towards the end we shall suggest where the Swedish developments on some of these various themes differ from that of the Austrians.

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The *Austrian Economics Newsletter* is designed as a research and communications device for work in Austrian economics. As such, it is essential that we have the active support and cooperation of our readers. We need any information which would be of value to other Austrians and we welcome any suggestions for improving the *Newsletter.* The success of the *Newsletter* fundamentally depends on our ability to encourage the participation and involvement of our readers.

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Beginning in the 1850's and 1860's, bankers, merchants and businessmen were the first people in Sweden to take a serious interest in economics. Heavily influenced by the French Classicals, they founded a number of economics clubs, the Economics Club of Stockholm (begun in 1877) being the most important. The main focus of interest in the Stockholm Club for many years was the issue of free trade versus protectionism; see

Eli F. Heckscher, "A Survey of Economic Thought in Sweden, 1875-1950", *Scandinavian Economic History Review,* Vol. I, no. 1 (1953) pp. 105-125.

Sweden's first "economist," however, did not appear on the scene until 1878, when David Davidson published his thesis, *On the Economic Laws of Capital Formation.* A careful and demanding scholar, Davidson, around the turn-of-the-century, is reported to have pointed to a book written by Karl Rodbertus and declared, "Yes, that and Ricardo's *Principles* are the only things of value that have ever been written in economics. And now, of course, they are both quite out of date." An account of Davidson's life and work can be found in

Eli F. Heckscher, "David Davidson", *International Economic Papers* #2 (1952) pp. 111-135.

The most comprehensive study of Davidson's contributions is

Carl G. Uhr, *Economic Doctrines of David Davidson* (1975).

Davidson's views on value theory, marginal productivity theory, and monetary theory are analyzed by Uhr in great detail, particularly the famous debate between Davidson and Knut Wicksell over whether the appropriate norm for economic stability should be a stable "price level" or gently falling prices under conditions of economic progress.

Equally valuable for understanding Davidson's thoughts on monetary theory is

Brinley Thomas, "The Monetary Doctrines of Professor Davidson," *Economic Journal* (March, 1935) pp. 36-50.

Besides summarizing Davidson's views and controversy with Wicksell, Thomas also points out the relationship between Davidson's writings and those of Dennis H. Robertson, Ludwig von Mises, Gunnar Myrdal, and Erik Lindahl. Also, see

Brinley Thomas, *Monetary Policy and Crises, A Study of Swedish Experience* (1937) pp. 62-66.

The economist with whom Davidson had this grand debate over monetary theory, Knut Wicksell, began his career in 1893, with the publication of

Knut Wicksell, *Value, Capital and Rent* (trans., 1954, with forward by G.L.S. Shackle).

In this work, Wicksell attempted to synthesize Walras' general equilibrium approach with Austrian capital theory as expounded by Böhm-Bawerk in *The Positive Theory of Capital.*

reviews:

A.W. Flux, *Economic Journal* (June, 1894) pp. 305-308,

Erich Schneider, *Economica* (Aug., 1935) pp. 345-348.

Wicksell's next contribution was his 1896 book, *Finanztheoretische Untersuchungen,* the major portion of which has been translated by J.M. Buchanan, as

Knut Wicksell, "A New Principle of Just Taxation," in ***Classics in the Theory of Public Finance,*** ed. by Musgrave and Peacock (1964) pp. 72-118.

The object of Wicksell's investigation was an analysis of the distinction between "shifting" and "incidence" of taxation. This study also contains an exposition of the "unanimity principle" as the basis for "just" taxation.

The Wicksellian argument was developed further in 1919 by Erik Lindahl, in his book, *Die Gerechtigkeit der Besteuerung,* a portion of which has been translated as

Erik Lindahl, "Just Taxation—A Positive Solution," ibid., pp. 168-176.

Critical comments and elaborations on this Wicksellian theme can be found in

Emil Sax, "The Valuation Theory of Taxation" [1924] ibid., pp. 177-189,

Erik Lindahl, "Some Controversial Questions in the Theory of Taxation" [1928] ibid., pp. 214-232,

Erik Lindahl, "Tax Principles and Tax Policy," [1959] ***International Economic Papers*** #10 (1960) pp. 7-23.

However, the book for which Wicksell is most famous appeared in 1898,

Knut Wicksell, *Interest and Prices* (trans., 1936, with introduction by Bertil Ohlin).

Wicksell reformulated the quantity theory in an attempt to defend Ricardo and the Currency School. The crucial element for understanding the relationships among money, interest, and prices, was the position of the money rate of interest in relation to the "natural" rate. A money rate below (above) the "natural" rate would stimulate (retard) economic activity setting off an upward (downward) cumulative process. He also analyzed the process by which changes

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in the rate of interest would change the degree of "roundaboutness" of production during a cumulative process.

reviews:

C.P. Sanger, *Economic Journal* (Sept., 1898) pp. 384-386,

Helen Makower, *Economica* (Aug., 1937) pp. 363-365.

A short, excellent summary of the theory was given by Wicksell in his essay,

Knut Wicksell, "The Influence of the Rate of Interest on Commodity Prices," [1898] in **Knut Wicksell, *Selected Papers on Economic Theory*** (1958) pp. 67-89.

Wicksell delivered a short exposition of the theory for English economists in 1906 at the Economic Section of the British Association,

Knut Wicksell, "The Influence of the Rate of Interest on Prices," *Economic Journal* (June, 1907) pp. 213-220.

All of these various strands of thought were pulled together in his two volume treatise,

Knut Wicksell, *Lectures on Political Economy,* 2 vols. (ed., with an introduction by Lionel Robbins, 1934).

The first volume on "General Theory" [1901] focused on value and price theory and the theory of capitalistic production, building, once again, on Böhm-Bawerk's contributions. Wicksell's views on the integration of "durable capital" into capital and investment theory can be found in an appendix to this volume in the form of a review of Gustav Åkerman's *Realkapital und Kapitalzins* (1923).

The second volume, on "Money and Credit" [1906] reformulates the theory presented in *Interest and Prices* in the wider context of general monetary theory.

reviews:

Arthur W. Marget, *Economica,* (May, 1935) pp. 227-229,

J.M. Clark, *Journal of Political Economy* (Dec., 1936) pp 812-814,

J.C. Gilbert, *Economica* (May, 1937) pp. 236-237,

Brinley Thomas, *Economic Journal* (June, 1936) pp. 289-293.

Wicksell's application of his insights to the problems of the trade cycle can be found in his 1907 lecture,

Knut Wicksell, "The Enigma of Business Cycles," *International Economic Papers #3* (1953) reprinted in ***Interest and Prices*** (1965 ed.) pp. 221-239,

in which he emphasized the real as well as the monetary factors that can generate cyclical fluctuations.

An analysis of the extent to which Wicksell's "cumulative process" had

David Davidson

equilibrating tendencies within it can be found in

Don Patinkin, "Wicksell's Cumulative Process," *Economic Journal* (Dec. 1952) pp. 835-847.

A number of Wicksell's articles on production and distribution theory, foreign trade problems and various reviews of Pareto, Menger, and Böhm-Bawerk were published in

Knut Wicksell, *Selected Papers on Economic Theory* (ed. with an introduction by Erik Lindahl, 1958).

review:

Brinley Thomas, *Economic Journal* (June 1959) pp. 369-373.

A brief overview of Wicksell's life and work can be found in

Bertil Ohlin, "Obituary: Knut Wicksell (1851-1926)," *Economic Journal* (Sept., 1926) pp. 503-512.

A comprehensive study of Wicksell's life is

Torsten Gårdlund, *The Life of Knut Wicksell* (1958),

containing an account of his famous two month imprisonment in 1908 for "blasphemous" remarks in public.

The most detailed expositon of Wicksell's writings is

Carl G. Uhr, *Economic Doctrines of Knut Wicksell* (1960),

a shorter version of which was published as

Carl G. Uhr, "Knut Wicksell—A Centennial Evaluation," *American Economic Review* (Dec., 1951) pp. 829-860.

A critical evaluation of Wicksell's

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Briefs

The latest issue of *The Public Interest* is devoted to "The Crisis in Economic Theory" and contains a number of diverse contributions whose cumulative effect is to convince the reader that something like a full-scale intellectual revolution is needed — and brewing — in our discipline. Of particular interest are Israel Kirzner's "The 'Austrian' Perspective" and Paul Davidson's "Post Keynesian Economics". Copies may be ordered from The Public Interest, 10 East 53 Street, New York, N.Y. 10022 for $4.00 each.

The July 1980 issue of the *Southern Economic Journal* contains an article by Richard McKenzie (Clemson University) entitled "The Neoclassicalists vs. the Austrians: A Partial Reconciliation of Competing Worldviews." In the article, McKenzie attempts to summarize the disputes between neoclassical and Austrian economics and to resolve them by showing that each school has different goals and purposes, and, hence, different methodologies. Unfortunately, McKenzie misrepresents Austrian economics at many crucial points in his arguments. The value-free nature of economic science, the role of the "real world" in Austrian analysis, and Austrian attitudes regarding prediction are a few of the areas in which the Austrian position is not correctly portrayed.

The Institute for Humane Studies and the George Mason University Austrian Economics Program co-sponsored a seminar in Austrian economics at George Mason University (Fairfax, Va.) and the Washington Hilton on November 7-8, 1980. The first day of the conference included a banquet with a talk by Leland B. Yeager (Univ. of Virginia). The second day featured talks by Roger Garrison (Auburn Univ.) on "Austrian Economics: Theory and Application," Mario Rizzo (NYU) on "Law and Economics: An Austrian Perspective," Karen Vaughn (George Mason Univ.) on the Socialist Calculation Debate and Dominick T. Armentano (Univ. of Hartford) on "Competition: An Austrian Perspective."

Recently published articles of interest to Austrians include "Cognition, Choice and Entrepreneurship" by James Buchanan and Alberto DiPierro in the *Southern Economic Journal* (January, 1980) and "Alternative Views of Mengerian Entrepreneurship" by Dolores Tremewan Martin in *History of Political Economy* (Vol. II, #2).

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contributions to economic theory is presented in

George J. Stigler, *Production and Distribution Theories, The Formative Period* (1941) pp. 261-295.

A mathematical presentation of Wicksell's theories on capital, money, and the cumulative process was written by

Ragnar Frisch, "Frisch on Wicksell," in ***Development of Economic Thought*** ed. by H.W. Siegel (1952) pp. 652-699.

A summary of Wicksell's work in the area of quantitative economics is given in

Johan Åkerman, "Knut Wicksell, A Pioneer of Econometrics," *Econometrica* (April, 1933) pp. 113-118.

The third early figure in the development of Swedish economic thought was Gustav Cassel. Turning to economics late in life, his first significant work, *Grundriss einer elementaren Preislehre*, only appeared in 1899. It contained an analysis of the problems of economic calculation under socialism similar to the arguments made by Mises 20 years later; see

T.W. Hutchinson, *A Review of Economic Doctrines, 1870-1929*, (1953) pp. 246-247.

His next book,

Gustav Cassel, *The Nature and Necessity of Interest* (1903),

attempted to demonstrate the productivity element in capital in terms of scarcity of supply. Interest was viewed as the market price for capital determined by the supply and demand for waiting.

review:

James Bonar, *Economic Journal* (June, 1904) pp. 280-286.

The concept of scarcity became the main theme in Cassel's 1918 treatise,

Gustav Cassel, *The Theory of Social Economy* (trans., 1923 & 1932).

He argued for the elimination of all psychological and subjective theories of value. Instead, economics should be made into an exact and quantitative theory of prices, with scarcity being the controlling element in relation to an objective market demand. The working out of this principle in a general equilibrium framework is the central core of the volume.

reviews:

Fabion von Koch, *Economic Journal* (Sept., 1919) pp. 333-337,

Francis Y. Edgeworth, *Economic Journal* (Dec., 1920) pp. 530-536,

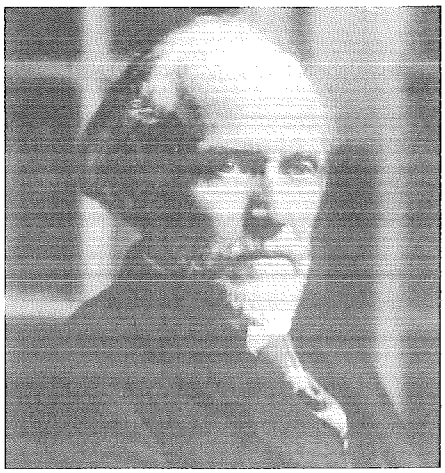
Frank H. Knight, *Quarterly Journal of Economics* (Nov., 1921) pp. 145-153,

Hugh Dalton, *Economica* (June, 1924) pp. 223-226,

Albert G. Hart & Homar Jones, *Journal of Political Economy,* (Aug., 1934) pp. 555-561.

A summary statement of his position was offered in a series of lectures delivered in England in 1925,

Gustav Cassel, *Fundamental Thoughts in Economics* (1925).



Gustav Cassel

The volume contains an excellent exposition of his view that trade cycles are deviations from extrapolated secular trend rates of growth.

Cassel's view, based upon this theory that the appropriate policy is one of a stable "price level", is developed in his article,

Gustav Cassel, "The Rate of Interest, The Bank Rate and the Stabilization of Prices," *Quarterly Journal of Economics* (1927-28) pp. 511-529.

Cassel defended his methodological approach ten years later,

Gustav Cassel, *On Quantitative Thinking in Economics* (1935).

review:

Leo Rogin, *American Economic Review* (March, 1937) pp. 115-116.

His major contribution to monetary theory was

Gustav Cassel, *Money and Foreign Exchange After 1914* (1922),

in which he developed the purchasing power parity theory in a form somewhat more mechanical than that found in Mises' *The Theory of Money and Credit.*

reviews:

Edwin Cannan, *Economic Journal* (Dec., 1922) pp. 506-513,

William A. Scott, *American Economic Review* (March, 1924) pp. 120-125.

A few years before his death, Cassel wrote his autobiography, *In the Service of Reason.* For a review essay of it, see

Eric England, "Gustav Cassel's Autobiography," *Quarterly Journal of Economics* (May, 1943) pp. 466-493.

It is somewhat paradoxical that this chief proponent of an "objective" and measurable economic science should argue in his autobiography that, "As thinking and volitional human beings, we must assume that we have an influence in the shaping of our fate. We must resolve something, and when we act upon our resolve we must recognize that we thereby inject new momentum into world development, that we are not merely fate determined, like wind-blown shavings raised and lowered on the curves of mathematical determination."

Short accounts of Cassel's contributions to economics can be found in

Howard S. Ellis, "Gustav Cassel, 1866-1945," *American Economic Review* (June, 1945) pp. 508-510,

Arthur Montgomery, "Gustav Cassel, 1866-1945," *Economic Journal* (Dec., 1947) pp. 532-542.

During the 1920's the focus of Swedish economic thought was on the refinement of the existing body of "marginalist" equilibrium theory, applications of theory to contemporary and historical situations, and debate and development of Wicksell's analysis of the influence of the rate of interest on prices in light of the major inflations during the First World War; see

Bertil Ohlin, "Tendencies in Swedish Economics," *Journal of Political Economy* (June, 1927) pp. 343-363.

The importance that Swedish economists were soon to place on the role of "plans" in economic theory was crystalized by Eli Heckscher when he emphasized that all historical and economic phenomena could and should be studied in terms of the "means" and "ends" of the actors involved; see

Eli Heckscher, "A Plea for Theory in Economic History," *Economic History* (Jan., 1929) pp. 525-534.

However, the major shift in emphasis in Swedish economics occurred in 1927, with the publication of Gunnar Myrdal's dissertation, *Prisbildningsproblemet och föränderligheten [The Problem of Price Formation and Change].* Myrdal emphasized that anticipations held at a *moment in time* about future events would influence the *present prices* prevailing on the market. Therefore, only an analysis of *expectations* held at various moments of time could provide causal understanding about the movement of prices over time. He used this perspective to study the entrepreneurial decision-making process concerning pricing and input combinations under the con-

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ditions of risk and uncertainty; see

Erik Lindahl, "Review of 'Dynamic Pricing' by Gunnar Myrdal" ***Economic Journal*** (March, 1929) pp. 89-91,

Brinley Thomas, ***Monetary Policy and Crises*** (1937) pp. 66-74.

Myrdal continued this line of thought in a 1931 Swedish essay that appeared in revised form in German in 1933 and finally was published in English as

Gunnar Myrdal, ***Monetary Equilibrium*** (1939).

He analyzed Wicksell's criteria for a "monetary equilibrium" that would preclude a "cumulative process." The three conditions were (gross) savings equal to (gross) investment, the anticipated rate of profit equal to the money rate of interest that equalizes savings and investment, and a stable "price level." Myrdal demonstrated that in non-stationary conditions a stable price level can be inconsistent with "monetary equilibrium" and showed how discrepancies between these elements of the Wicksellian system could generate a "cumulative process", by distinguishing between the *ex ante* plans and expectations of the economic actors and the *ex post* realized outcome.

reviews:

Joan Robinson, ***Economic Journal*** (Sept., 1939) pp. 493-495,

Paul A. Samuelson, ***American Economic Review*** (March, 1940) pp. 129-130,

Howard S. Ellis, ***Journal of Political Economy*** (June, 1940) pp. 434-436,

Abba Lerner, ***Canadian Journal of Economics*** (Nov., 1940) pp. 574-591,

Hans Neisser, ***Social Research*** (Nov., 1941) pp. 454-468,

Jacob Marschak, ***Social Research*** (Nov., 1941) pp. 469-478,

G.L.S. Shackle, ***Oxford Economic Papers*** (March, 1945) pp. 47-66

A penetrating and exhaustive critique of Myrdal's framework can be found in

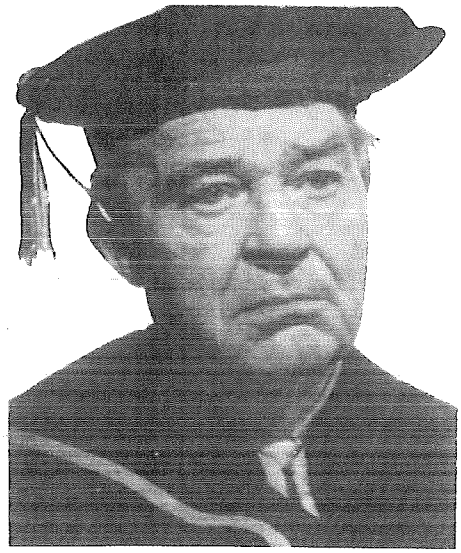
Tord Palander, "On the Concepts and Methods of the 'Stockholm School,' Some Methodological Reflections on Myrdal's Monetary Equilibrium." [1941] trans. in ***International Economic Papers*** #3 (1953) pp. 5-57.

The role of knowledge, expectations, and time in economic analysis now became a dominant theme among the "Stockholm" economists.

In 1929, Erik Lindahl attempted to further integrate the theory of "roundabout" capital processes into a Walrasian general equilibrium framework under alternative assumptions of perfect and imperfect foresight. He also introduced a "period analysis" in terms of "very short" periods in which all price changes occur only at transition points between periods; see

Erik Lindahl, "The Place of Capital in the Theory of Price," abridged trans. in his ***Studies in the Theory of Money and Capital*** (1939) pp. 271-350.

A year later, in 1930, Lindahl attempted to refine Wicksell's theory by using the same tools of "period analysis". He discussed the likely distortions in the structure of production during a cumulative process under conditions of perfect and imperfect foresight. Furthermore, he considered the possible sequence of events during the cumulative process under the alternative assumptions of full employment, unemployment in both producer and consumer goods sectors, or unemployment in one sector and full employment in the other sector. He also discussed the significance of different rates of interest for the analysis and argued, like Myrdal, that a stable "price



Gunnar Myrdal

level" could be inconsistent with economic progress, if a cumulative process was to be prevented; see

Erik Lindahl, "The Rate of Interest and the Price Level," abridged trans. in ***Studies in The Theory of Money and Capital*** (1939) pp. 139-268.

An application of Lindahl's "period analysis" to the problem of international transmission of business cycles was made by Dag Hammarskjöld, in his 1933 dissertation, *Konjunkturspridningen [The Transmission of Economic Fluctuations].* For short summaries of his work, see

Erik Lundberg, ***Studies in the Theory of Economic Expansion*** (1937) pp. 77-84,

Erik Lindahl, ***Studies in the Theory of Money and Capital*** (1939) p. 52n.

Another attempt at dynamic analysis focusing on successive periods through time was made by Johan Åkerman. He emphasized the distinction between "timeless" equilibrium and "time-filled" economic change. He utilized Wicksell's theory of distortions in the structure of production to analyze problems that might arise under conditions of "normal" economic change as well as under monetary disturbances.

Johan Åkerman, ***Economic Progress and Economic Crises*** (1932).

Åkerman believed that a shift to dynamic analysis required a shift to empirical and statistical analysis through the use of time-series techniques; see

Johan Åkerman, "Quantitative Economics," ***Weltwirtschaftliches Archiv*** (1932) pp. 34-65.

A general discussion by him of the methodological issues involved in dynamic analysis can be found in

Johan Åkerman, "The Setting of the Central Problem," ***Econometrica*** (1936) pp. 97-122.

Åkerman applied his method to a study of the Great Depression in a series of monographs. His analysis of the causes and cures for the depression were strikingly similar to those of Mises, Hayek and Lionel Robbins. He argued that monetary policies followed in the 1920's had brought about disproportionalities in the make-up of the production goods and consumption goods sectors of the economy; that a return to economic balance required wage, price and relative production adjustments; and that if any of the malinvestments generated in the 1920's were to be saved, greater savings needed to be fostered, not consumption expenditures; see

Johan Åkerman, ***Some Lessons of the World Depression*** (1931),

Johan Åkerman, ***Economic Forecast and Reality, 1928-1932*** (1933),

Johan Åkerman, "Saving in the Depression," in ***Economic Essays in Honour of Gustav Cassel*** (1933) pp. 11-31.

An overview of some elementary economic relationships as they relate to dynamic processes was presented at the same time in

Bertil Ohlin, "A Note on Price Theory with Special Reference to Interdependence and Time," ***Economic Essays in Honour of Gustav Cassel*** (1933) pp. 471-477.

In the same year, Ohlin published a macroeconomic model, utilizing the concepts of *ex ante* and *ex post.* He

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argued that while, *ex post,* savings always equaled investment, *ex ante,* there was no reason for this to hold. He focused on relationships between aggregate income, consumption, savings and investment and the influences on these magnitudes due to changes in expectations, variable interest rates and fluctuating spending patterns. He rejected the notion of a "natural" rate of interest, doubted the usefulness of the "forced saving" concept and emphasized analysis of changes in aggregate capital expenditures rather than analysis of changes in the structure of production; see

Bertil Ohlin, "On the Formulation of Monetary Theory," [1933] trans. in ***History of Political Economy*** (Fall, 1978) pp. 353-388.

Further elaborations on this theme were presented by Ohlin in his classic 1937 article,

Bertil Ohlin, "Some Notes on the Stockholm Theory of Saving and Investment," ***Economic Journal,*** part I (March, 1937) pp. 53-69; part II (June, 1937) pp. 221-240.

He gave a summary of the Swedish approach, explaining the meaning of period analysis, "*ex ante-ex post*," the crucial role of expectations, and a loanable funds theory of interest. He also contrasted and criticized Keynes' *General Theory* from the "Swedish" perspective.

Ohlin replied to a rebuttal by Keynes the same year,

Bertil Ohlin, "Alternative Theories of the Rate of Interest," ***Economic Journal*** (Sept., 1937) pp. 423-443,
in which he defended the loanable funds theory formulated in terms of *ex ante* supply and demand schedules.

A critical summary and graphical exposition of Ohlin's interest rate theory can be found in

Gottfried Haberler, ***Prosperity and Depression*** (3rd ed., 1943) pp. 180-191.

An application, by Ohlin, of his framework to the problem of unemployment is presented in

Bertil Ohlin, "Employment Stabilization and Price Stabilization," in ***The Lessons of Monetary Experience, Essays in Honor of Irving Fisher*** (1937) pp. 318-328.

And a more systematic application was published by him in

From left to right: Ivar Sundbom, Jørgen Dich, Hans Cl. Nyb
Svennilson, Erik Lundberg, Dag Hammarskjöld, Johan Åkerma

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ıard Mackenroth, Bror Gloerfelt-Tarp, Gunnar Myrdal, Ingvar ıdahl, and Erling Petersen.

Bertil Ohlin, *The Problem of Employment Stabilization* (1949), in which he reformulates his theoretical argument and restates his criticisms of the Keynesian system.

reviews:

J.E. Meade, *Economica* (Aug., 1950) pp. 328-330,

Lorie Tarshis, *Journal of Political Economy* (Aug., 1950) pp. 359-360,

R.F. Harrod, *Economic Journal* (Sept., 1950) pp. 552-556.

Gustav Cassel had also criticized Keynes, arguing that he failed to appreciate the general equilibrium perspective. Hence, his conclusions about "unemployment equilibrium" were due to the fact that his "aggregate" approach was essentially a "partial" analysis; see

Gustav Cassel, "Keynes' 'General Theory,'" *International Labor Review* (Oct., 1937) pp. 437-445.

Ohlin and Cassel were joined in their critical evaluation of Keynesian economics by Erik Lindahl, who argued that Keynes was too mechanical in his assumptions about the workings of the economic system and that Keynes frequently confused and mixed together long-run and short-run schedules in the same analysis; see

Erik Lindahl, "On Keynes' Economic System," *Economic Record,* part I (May, 1954) pp. 19-32; part II (Nov., 1954) pp. 159-171.

More recently, Ohlin has discussed the extent to which the writings of Wicksell and the other Swedish economists may have influenced the development of Keynes' thought; see

Bertil Ohlin, "Some Comments on Keynesianism and the Swedish Theory of Expansion Before 1935," *Keynes, Cambridge and 'The General Theory'* (1977) ed. by Don Patinkin and J. Clark Leith, pp. 149-165.

Ohlin also wrote two critical articles on the quantity theory of money, in which he argued that the demand for money was far from being a stable variable and that changes in the quantity of money are more of a response than an initiating factor in economic fluctuations; see

Bertil Ohlin, "The Stockholm School versus the Quantity Theory," [1943]

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trans. in ***International Economic Papers*** #10 (1960) pp. 132-146,

Bertil Ohlin, "On the Quantity Theory of Money," in ***Money, Growth and Methodology and Other Essays in Economics in honor of Johan Åkerman*** ed. by Hugo Hegeland (1961) pp. 113-122.

Ohlin's 1937 articles appeared almost simultaneously with the publication of Erik Lundberg's systematic exposition of what he called "sequence analysis." Lundberg argued that the purpose of economic theory was to analyze change through time. This required a rejection of much of "partial" and "general" equilibrium theory. "Partial" theory studied one segment of the economy assuming the rest of the system constant, while traditional "general" theory searched for equilibrium outcomes via "simultaneous solutions." Instead, he wished to offer a time sequence analysis in which variables in the present period are determined by the value of the variables in the past period and, in turn, will determine the value of the variables in the next period. Rather than arriving at an equilibrium position, the system is one of perpetual change, of adjustment and readjustment. He developed a series of different sequence models containing alternative assumptions about the constants and the relationships between the variables during the periods under study; see

Erik Lundberg, *Studies in the Theory of Economic Expansion* (1937).

reviews:

Oskar Lange, *Economica* (May, 1938) pp. 243-247,

Hans Neisser, *Journal of Political Economy* (June, 1938) pp. 253-256,

R.B. Bryce, *Canadian Journal of Economics* (Feb., 1938) pp. 118-122.

In 1939, Lindahl presented what Hayek called "the clearest and most systematic expositon of the modern 'period analysis.'" Lindahl's purpose was to offer a general framework for dynamic analysis of disequilibrium adjustment. Detailing a theory of multi-period plan formation, he attempted to describe the process by which discovered incompatibility between plans would set in motion plan revisions at transition points between periods. The revisions would be based upon the modified expectations caused by an evaluation of the actual events recorded during the previous period. An "algebraic discussion" portrayed the working of such a "period analysis" mechanism with both micro- and macro-economic quantities; see

Erik Lindahl, "The Dynamic Approach to Economic Theory," ***Studies in the Theory of Money and Capital*** (1939) pp. 21-136.

reviews:

G.L.S. Shackle, *Economic Journal* (March, 1940) pp. 103-105;

F.A. Hayek, *Economica* (Aug., 1940) pp. 332-333;

Albert G. Hart, *American Economic Review* (Sept., 1940) pp. 584-585;

Hans Neisser, *Journal of Political Economy* (June, 1941) pp. 451-453.

Lindahl's use of a concept of income defined as interest on net wealth and consumption as unsaved income is spelled out in two essays; see

Erik Lindahl, "The Concept of Income," ***Economic Essays in Honour of Gustav Cassel*** (1933) pp. 399-407,

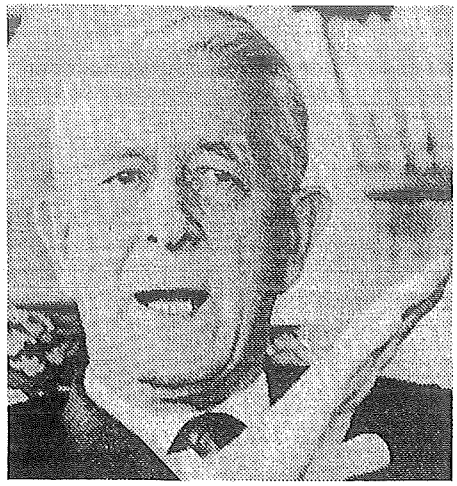
Erik Lindahl, "The Basic Concepts of National Acounting," [1954] trans. in ***International Economic Papers*** #7 (1957) pp. 71-100.

"Period analysis" along Lindahlian lines was vehemently attacked and Keynesian theory fanatically defended by

Abba Lerner, "Some Swedish Stepping Stones in Economic Theory," ***Canadian Journal of Economics*** (Nov., 1940) pp. 574-591.

However, Lindahl's method was strongly defended in a "note" a year later; see

Benjamin Caplin, "Some Swedish Stepping Stones in Economic Theory: A Comment," ***Canadian Journal of Economics*** (Nov., 1941) pp. 559-562.



Bertil Ohlin

An application of Lindahl's "period analysis" to problems of "open" and "repressed" inflation is given in

Bent Hansen, *A Study in the Theory of Inflation* (1951).

And a formal summary of Lindahl's method is presented by

William P. Yohe, "An Analysis of Professor Lindahl's Sequence Model," ***L'Industria*** (1959) pp. 165-174.

In 1958, Lindahl returned to a question that concerned him in his 1930 study, i.e., the appropriate norm for economic stability. He suggested, again, that a cumulative process would most likely be prevented by a "price level" that moved inversely with productivity increases; see

Erik Lindahl, "The Discussion of Professor Haberler's Paper on 'Monetary Factors Affecting Economic Stability,'" in ***Stability and Progress in the World Economy*** ed. by Douglas Hague (1958) pp. 179-186.

A few years later, in reconsidering the issue, he argued there may be circumstances when a stable "price level" is preferable; see

Erik Lindahl, "The Problem of Fixing a Norm for the Value of Money," in ***Inflation*** ed. by D.C. Hague (1962) pp. 95-111.

A moving, personal tribute to Lindahl can be found in

Ralph Turvey, "Erik Lindahl," ***Ekonomisk Tidskrift*** (1960) pp. 5-8.

A complete bibliography of Lindahl's writings follow Turvey's article. For a discussion of some of Lindahl's writings, see

William P. Yohe, "A Note on Some Lesser-known Works of Erik Lindahl," ***Canadian Journal of Economics*** (May, 1962) pp. 274-280.

A contrast and comparison of various types of periods that can enter into "period analysis" was developed by Fritz Machlup, including transaction periods, income periods, equilibrium adjustment periods and plan adjustment periods; see

Fritz Machlup, "Period Analysis and Multiplier Theory," ***Quarterly Journal of Economics*** (Nov., 1939) pp. 1-27.

And, in fact, Swedish "period analysis" has stimulated a number of adaptations of the technique for diverse purposes. The best known is Sir John Hicks' use of "short-period" equilibrium analysis in the section devoted to "The Foundations of Dynamic Economics" in

John R. Hicks, *Value and Capital* (1939) pp. 115-140.

Hicks explained the different assumptions underlying his use of the technique as compared to Lindahl in

John R. Hicks, "Methods of Dynamic Economics," ***25 Economic Essays in Honour of Erik Lindahl*** (1956) pp. 139-151.

Arthur W. Marget, as part of his attempt to rehabilitate the Equation of Exchange as an analytical tool by laying a

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microeconomic foundation for it, presented a critical history of "period analysis" and used the technique to devise a "three dimensional" dynamic model of a "moving system of economic quantities;" see

Arthur W. Marget, *The Theory of Prices,* vol. II (1942) pp. 346-403 & 478-498.

And arguing that process analysis was the "economics of the future," Karl Bode suggested a catagorization of economics under three headings: 1) Static Equilibrium Analysis, as a study of constant plans incorporating constant actions; 2) Dynamic Equilibrium Analysis as the study of constant plans incorporating changing actions; and 3) Process Analysis, as the study of changing plans incorporating constant or changing actions; see

Karl Bode, "Plan Analysis and Process Analysis," *American Economic Review* (June, 1943) pp. 348-354.

Johan Åkerman continued his own development of a "period analysis" in a critical evaluation of the works of his fellow Swedish economists, emphasizing the institutional factors and the causal chains at work at various micro and macro levels; see

Johan Åkerman, "Economic Plans and Causal Analysis," [1942] trans. in ***International Economic Papers*** #4 (1954) pp. 181-196.

In the 1940's, Åkerman applied his process analysis to a pioneering article on the "political business cycle;" see

Johan Åkerman, "Political Economic Cycles" *Kyklos* (1947) pp. 107-117.

Åkerman also took another look at Wicksell's system; see

Johan Åkerman, "The Cumulative Process," *25 Economic Essays in Honour of Erik Lindahl* (1956) pp. 393-412.

And he reformulated his own process analysis a few years later; see

Johan Åkerman, *Theory of Industrialism: Causal Analysis and Economic Plans* (1960).

An excellent overview of the development of the Swedish School, containing information about many of the Swedish contributions not available in English can be found in

Karl-Gustav Landgren, *Economics in Modern Sweden* (1957).

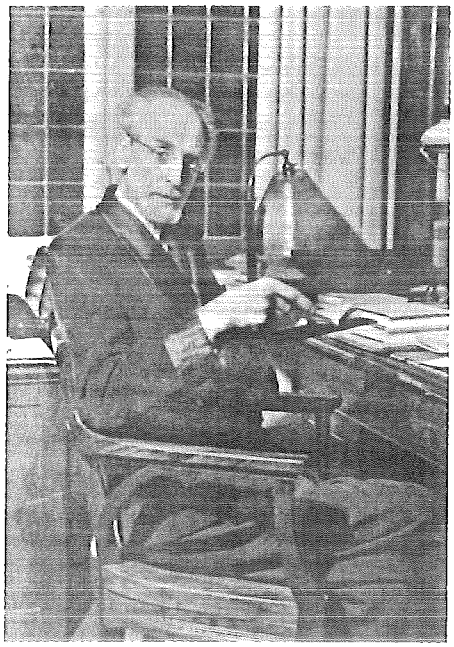
A very clear summary of the Swedish process analysis and the assumptions underlying it and how it differs from econometric time-series analysis is given by

Sidney D. Merlin, *The Theory of Fluctuations in Contemporary Economic Thought* (1949) pp. 59-90.

A particularly good account of the development of Swedish economic theory and Swedish economic history in the post-World War I period can be found in

Erik Lundberg, *Business Cycles and Economic Policy* (1957).

The debates among Wicksell, Davidson and Cassel served as the starting points for most Swedish discussions



Eli Heckscher

about monetary theory and policy through most of this period; see

Brinley Thomas, *Monetary Policy and Crises, A Study of Swedish Experience* (1937),

Dag Hammarskjöld, "The Swedish Discussion of the Aims of Monetary Policy" [1944] trans. in ***International Economic Papers*** #5 (1955) pp. 145-154.

And the actual course of Swedish monetary affairs in the 1920's and 1930's as influenced by these discussions is explained in

Erik Lindahl, "Sweden's Monetary Program; The Experiment in Operation; Its Results and Lessons," *Economic Forum* (1934) pp. 169-181,

E.T.H. Kjellstrom, *Managed Money: The Experience of Sweden* (1934),

Richard A. Lester, *Monetary Experiments, Early American and Scandinavian* (1939) pp. 225-283,

Lars Jonung, "Knut Wicksell's Norm of Price Stabilization and Swedish Monetary Policy in the 1930's," *Journal of Monetary Economics* (Oct., 1979) pp. 459-496,

Lars Jonung, "The Depression in Sweden and the United States; a Comparison of Causes and Policies," in ***Contemporary Views of the Great Depression*** (1979).

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To fairly evaluate the contributions of the Stockholm School from the Austrian perspective would require a monograph many times the length of this paper. However, it seems worthwhile to at least touch upon a few of the elements that both Swedish and Austrian economists equally consider vital to their respective studies. We shall consider three such elements under the headings: *periods, processes* and *production.*

PERIODS

The Swedish economists insist that successful interpretation of economic events and changes in those events in terms of causality can only be achieved through focusing on the human plans that generate the measured and registered phenomena. Furthermore, plans are formulated for longer and shorter periods, with some plans encompassing a time covering several periods.

However, at this point the unanimity breaks down among the Swedes. Johan Akerman viewed a calendar year as the "natural period" because "within this period will be found a cycle of income and expediture items which balance out."

Erik Lindahl, on the other hand, wished to show the process of adjustment through time and over periods when interpersonal plans were found to be incompatible; he postulated that prices are set at the beginning of the period, transactions are carried out during the period and at the end of the period the registered quantities bought and sold at those prices are tabulated. Based on any disappointed expectations, revisions are made in pricing and production plans and these serve as the starting point for the events in the next period. Now, Lindahl argued, the period of time when plans will be unchanged for the entire economic community is "fairly short." Hence, he divided his sequential periods into arbitrarily "short periods" during which the individual plans are postulated as unchanged.

Periods take on a different meaning for Lundberg. The relevant "period" depends upon the nature of the theoretical exercise. One must first specify whether the focus of the analysis concerns "production periods," "periods of contract," "reaction or adjustment periods," etc. To analyze the total effect of a change it would be necessary to have a period long enough for everyone in the

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economy to have been affected. On the other hand, it might be desirable to look at "shorter" periods that encompass relevant events that might otherwise be submerged within the "total analysis" of the "long" period. "As to the unit period," as Myrdal expressed it, "it must. . . be chosen of different length in dealing with different problems, depending on the velocity of change in the factors kept movable or fixed respectively."

It should be obvious, however, that, of themselves, physical production periods, contract or income periods in terms of clock time and certainly "very short" periods in which no measured change in price or quantity occurs, have nothing to do with "plans." Measured time may, of course, have to pass before input becomes output or before contracts can be revised or before income can be received and spent. But "plans" need not (and often are not) harnessed to these measured calendar periods. *In fact, by operating within these "period" constraints it is no longer human plans that define periods, but rather it is the analyst's arbitrarily drawn periods that define "plans."* When attempting to study actual events in terms of "period analysis" it should come as no surprise that the real lines of causality frequently fail to conform to those postulated by the economist.

For the Austrian, "periods" are interpreted as *potentials for action* from the perspective of the actors themselves. The past or previous period represents those opportunities or activities that can no longer be taken advantage of, whose "time has passed." The future or next period represents those opportunities or activities which cannot now be taken advantage of or done, whose "time has not yet come." The present or existing period represents those opportunities or activities that are perceived as now being possible to take advantage of, whose "time has come."

The periods into which plans are divided depend upon the perception of the individual as to what is possible "now," with "now" potentially a space of time encompassing more or less than any production or contract or income or "short" or "long" period. Thus, "periods" will take on varying lengths depending upon the particular plan being pursued by the actor. Furthermore, different plans being pursued simultaneously by the same actor may each have different period lengths within them.

A fully developed "plan analysis," in Austrian terms, would not focus on arbitrary "transition points" where it is presumed that all plans for all individuals are modified simultaneously from one "period" to the next. Rather, it would analyze the resulting consequences of "plan revisions" as different individuals *at different times* in the process discover that their initial plans cannot be fulfilled "as planned." Indeed, in no other way can the analysis incorporate a *real process*, for any changes in the "data" (including respective plan revisions) will not affect all individuals simultaneously nor be "registered" (as a guide for plan revisions) at the same time, nor have the same significance for each of the individuals concerned.

PROCESSES

For the Stockholm School, "expectations" serve as the crucial element in the analysis of dynamic change. "As economic events depend on men's action," in Ohlin's words, "one has to investigate what determines those actions . . .Hence, one must study those expectations about the future which govern those actions, keeping in mind that expectations are based on the experiences of the past. . .".

"The driving force in the dynamic process," echoed Lindahl, "lies entirely in the sphere of expectations. . . .The attempts to realize the respective individual plans must quickly reveal that they are more or less incompatible. . . .The result must therefore be a modification of some of the plans."

For the Austrians, as well, expectations are an integral part of their approach. Indeed, the forward-looking character of action necessarily makes "anticipations" a fundamental element in modern Austrian theory. However, the difference between the Stockholm and Austrian economists resides in the assumption about what function the fulfilled and unfulfilled expectations play in bringing about "plan coordination" in the market.

In Swedish analysis, we can imagine a series of "periods" in which the position and shape of the demand curve is different in each period (partly due to the events in each of the previous periods). At the beginning of each of the periods, the entrepreneurs form "expectations" about the position of the demand curve in that period and adjust price and quantity to maximize profit. At the end of each period, it is discovered that the prices set have over- or undershot the "equilibrium" prices for that period, given the decisions about quantity to supply. No mechanism is suggested, however, as to how, through the sequence of plan revisions, an equilibrium (in terms of adjusted, mutually compatible plans) would ever be reached, nor, in fact, as to whether even a *tendency towards* an equilibrium exists at any, or over any, time. All one has is a sequence of periods that show end-period disequilibriums. Any equilibrium that materialized when the outcome of a period was tabulated at the end of the period would be pure chance and most likely only occur "sporadically" (Lindahl).

For the Austrians, in Mises' words, the "driving force of the market process is provided. . .by the promoting and speculating entrepreneurs" (*Human Action*, p. 328). Entrepreneurs coordinate factors of production based on their expectations of consumer demand for alternative market products. Those who successfully anticipate consumer preferences reap profits, while those who fail in this task suffer losses. Correct and incorrect expectations are, therefore, respectively rewarded and penalized. Over time, the market process weeds out the more incompetent entrepreneurs and shifts resource control to those who are more competent in their endeavors. The reins of production would always be tending to be in the hands of those who demonstrated the superior "expectational" capacity (see Kirzner, *Competition and Entrepreneurship).*

Furthermore, successful entrepreneurship includes forming correct expectations about "reaction adjustment periods," and changing *ceteris paribus* conditions, and entails coordination of one's own activities not only with those within the same market but also with those in other related and relevant markets.

Thus, while the Austrians do not suggest that some ultimate "equilibrium" is ever reached, their analysis of entrepreneurship and the profit and loss mechanism makes them more confident about likely *tendencies toward* an equilibrium at any time.

PRODUCTION

Wicksell's analysis of a "cumulative process" was concerned with two questions: the underlying factors that could set in motion a sustained period of generally rising or falling prices and the sequence of events *within* the structure of production once a "cumulative process" has been generated by a money rate of interest being either above or below the "natural" rate.

While few members of the Stockholm School have ever totally ignored these effects on the structure of production,

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as the School evolved less emphasis was placed on this aspect of Wicksell's analysis. In 1930, Lindahl's, "The Rate of Interest and the Price Level," was to a large extent devoted to a study of such possible distortions in the production structure. However, while Myrdal admitted, in *Monetary Equilibrium*, that the "shift in production. . .is the essential and necessary change keeping the cumulative process going. . ." he focused purely on changing profitability of investment *in general*, rather than the changing profitabilities within the stages of production. Ohlin argued in the same year that changes in the structure of production are "phenomena not to be ignored in an analysis of a price sequence," but felt their significance was "exaggerated." And, in fact, through most of his later writings Ohlin was solely interested in "macro" analysis of aggregate expenditure and output streams. The same is true even of Lindahl by the time he came to write his 1939 essay on "The Dynamic Approach to Economic Theory." His "plan analysis" is purely in terms of expenditure streams and *ex post* disappointments in relation to anticipated outlays and receipts.

Austrians, following more closely the original Wicksellian path, have focused their attention on the sequential changes in the structure and stages of production generated by money and "natural" rate discrepancies. They have chosen this path for two reasons. First, if economics *is* to attempt a dynamic analysis of change and process, it must use what Mises (and Dennis Robertson in a different context) called the "step-by-step" procedure; it must focus on the sequential changes in plans following a change in the "data." A necessary part of such an analysis is how changes in the rate of interest can induce changes in the demand for different *types* of capital goods, representing different "time-shapes" of production; and furthermore, how this tends to "reshape" the entire structure of production. Indeed, any measured changes in aggregate output, employment, etc., will themselves be nothing more than the culminating result of these microeconomic plan changes and cannot be successfully understood apart from these microeconomic steps.

Secondly, the Austrians attempt by this procedure to unify in one analysis the workings and interactions of both the "real" and the "monetary" factors operating in the economy. The *patterns of monetary expenditures* are juxtaposed against the *pattern of resource allocations* directed to meet and satisfy the demands represented by those monetary expenditures.

As Hayek expressed it in his 1933 essay, "Price Expectations, Monetary Disturbances and Malinvestments," for equilibrium to prevail, "The decisions of the entrepreneurs as to the dates and quantities of consumer goods for which they provide by their present investments" must "coincide with the intentions of the consumers as to the parts of their income which they want to consume at various dates." If the plans of consumers do not coincide with those of producers "there exists evidently a conflict between the intentions of the consumers and the intentions of the entrepreneurs which earlier or later must manifest itself and frustrate the expectations of at least one of the two groups."

The Austrians, compared to the later Swedish economists, consider this potential misallocation of *real* resources in relation to the consumption-saving patterns of consumers to be crucial to any complete analysis of the cumulative process.

The inclination on the part of the Swedish economists to devise various forms of arbitrary "periods" at the end of which events and results can be measured and registered, and their tendency to direct their attention toward aggregate economic quantities has much to do with the role they played in proposing and influencing policy in Sweden in the 1920's and 1930's. While, for example, Mydral insisted that it was important to distinguish those constructs that are instruments for theoretical analysis from those constructs that serve for policy purposes and are necessarily less exact, he and most of the other Swedes

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seem to have blurred this vital distinction. Their analytical constructs frequently become confined to what was viewed as empirically useful for potential policy implementation.

But as Mrydal himself pointed out in *The Political Element in the Development of Economic Theory,* "In Austria, economics never had direct political aims in spite of the close connection of the Austrian marginal utility theory with utilitarian philosophy. The Austrians were preoccupied with value theory and never elaborated a detailed theory of welfare economics."

Members of the Austrian School have been more interested in developing economic theory along lines that realistically reflect the process of choice and action. As Schumpeter pointed out, "the Austrian way of emphasizing the behavior or decision of individuals" is an attempt "to replace a simple but inadequate picture by one which is less clear-cut but more realistic and richer in results." Only by such a procedure can we hope to achieve what both Schools have always viewed as an important goal, a theory of economic dynamics. Indeed, the Austrians may very well assist in completing the task that the Swedish economists so brilliantly began.

* * *

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Hayek on Wicksell

"[I]t was only this great Swedish economist who at the end of the century finally succeeded in definitely welding the two, up to then, separate strands of thoughts into one [i.e., "the relation between the rate of interest, the amount of money in circulation and. . .the general price level" and "the influence which an increase in the amount of money exercises upon the production of capital, either directly or through the rate of interest"]. His success in this regard is explained by the fact that his attempt was based on a modern and highly developed theory of interest, that of Böhm-Bawerk."

"[I]t is partly upon the foundations laid by Wicksell and partly upon criticism of his doctrine that what seems to me the [next] of the great stages of the progress of monetary theory is being built" (*Prices and Production*, p 18, pp 22-23, p 26).

A Note on Leijonhufvud's "The Wicksell Connection"

by Tyler Cowen

"The Wicksell Connection: Variations on a Theme," a chapter in Axel Leijonhufvud's forthcoming *Information and Coordination* (Oxford University Press), is an examination of both Knut Wicksell's monetary theory and the different macroeconomic theories of the twentieth century that sprang from the Wicksellian heritage. Leijonhufvud's basic thesis is that ". . .the theory of the interest rate mechanism is the center of confusion in modern macroeconomics." This confusion can be clarified by tracing the development of the theory of the interest rate mechanism from its origins in Wicksell's savings-investment approach to the modern Keynesian-Monetarist and Cambridge controversies.

It was Wicksell's cumulative process that supplied the vital insight that a discrepancy between the natural and market rates of interest would discoordinate saving and investment decisions. It is here that we find the starting point for the macroeconomic theories of the Stockholm school, the early Cambridge school (Robertson and Keynes' *Treatise*), and the Austrian school. Leijonhufvud compares these theories to modern monetarism, a theory which ignores any possibility of the capital market being in disequilibrium. This point suggests that both the IS-LM model and empirical tests are incapable of resolving the differences between the Keynesians and the Monetarists. Instead, the true difference lies in the different assumptions which each school makes about the interest rate mechanism. Leijonhufvud thinks that if the interest rate were *always* at its equilibrium level, the Monetarists would be right. But if planned saving does not equal planned investment, then a situation of "underemployment equilibrium" (actually underemployment *dis*equilibrium) may arise. The confusion between Keynesians and Monetarists is attributed to Keynes' liquidity preference theory of interest which hides the true role that the rate of interest may play in coordinating and discoordinating plans. Leijonhufvud's conclusion is that we should return to the Wicksellian brand of analysis that ascribes macroeconomic disequilibrium to the difference between the natural and market rates of interest.

Knut Wicksell

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Schumpeter on Wicksell

"[The work of] the Nordic Marshall, Wicksell. . .was one of the most important factors in the emergence of the economics of our own time, and not only in Sweden."

"No finer intellect and no higher character have ever graced our field. If the depth and originality of his thought do not stand out more clearly than they do, this is only owing to his lovable modesty, which led him to present novelty — semi-hesitatingly — as little suggestions for the improvement of existing pieces of apparatus, and to his admirable honesty, which pointed incessantly to his predecessors, Walras, Menger, and Böhm-Bawerk, although, with much more justification than did others, he might have presented his system of analysis as substantially his own creation."

". . .[H]is influence spread — by virtue of its own momentum — particularly after his retirement, when he took part in current discussions more actively than before. He had many pupils of very high quality. Practically all the well-known Swedish and Norwegian economists of today are, more or less, his pupils. His international reputation, however, was not commensurate with his achievement until, in the late 1920's and the early 1930's, it began to dawn upon the professional world that he had anticipated, to a very large extent, all that was most valuable in the modern work on money and interest."

". . .The best formulation of the Austrian doctrine was presented. . .by Wicksell." (*History of Economic Analysis*, pp 862-863, p 913).