[This is an excerpt from my paper which is put on the following site: http://www2u.biglobe.ne.jp/~olympa/cambridge/wicksell-hirai.doc]

Wicksell's Theory of Cumulative Process — Its Influences on Keynes, His Contemporaries and Modern Monetary Economists

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I. Introduction

Monetary economics came to the fore with Wicksell's *Interest and Prices* (1898), a century after Thornton's famous book (1802). The theory of cumulative process proposed by Wicksell was to have great influence on economic theory in the 1920s-30s through critical interpretations.

The purpose of the present paper is to examine this strand of thought by taking in Keynes, Myrdal and Hayek as well as Wicksell. How did Wicksell's theory of cumulative process influence them? How did they evaluate Wicksell's theory as monetary economics, and in so doing take a critical stance on the neoclassical orthodoxy? To what degree did they accept and criticize Wicksell's theory? What precisely are their theories?

We will address these questions, which are of fundamental importance to: (i) understand how monetary economics developed in the inter-war period (one of the most significant developments in modern economics); (ii) understand how Keynes accepted and then rejected Wicksell's influence, which amounts to tracing out the Keynesian Revolution.

II. Interpretations of Wicksell's Influence

A considerable number of studies have appeared on the evaluation and influences of Wicksell's theory. Here we will review them, classifying them in two categories, and then go on to declare our stance.

- Positive Evaluation
- Negative Evaluation

- Our Stance

Our understanding of Wicksell's influence might be ascribed to the side which evaluates it positively, but actually it occupies a unique position in that it emphasizes the change in the relationship between Keynes and Wicksell.

Wicksell accepted the classical dichotomy, and the Walrasian general equilibrium theory as a theory of relative prices. However, he also rejected the quantity theory of money as a theory of absolute prices, and instead put forward a theory of cumulative process.

The economists whose theories are examined below were greatly influenced by Wicksell's theory. The largest contribution which they made to economic theory lay in proposing their own brand of monetary economics through immanent criticism of Wicksell's theoretical system.

We value Wicksell's theory of cumulative process positively because it enabled Myrdal, Hayek and Keynes (as the author of the *Treatise*) to abandon the quantity theory of money, and opened the way for them to construct their own brand of monetary economics, advancing somewhat further than Wicksell himself.

As far as Keynes is concerned, however, Wicksell's influence rapidly waned thereafter, for Keynes was to develop his theory of employment as seen in the *General Theory* independently of Wicksell's theory of cumulative process.

In the following pages we will endeavor to clarify Wicksell's influence through examination of the views advanced by Keynes, Myrdal and Hayek (as well as Wicksell) on the state of economics at their time and reconstruction of their own theories.

III. Wicksell

Wicksell's View of the Situation of Economics

Wicksell's theory of cumulative process

IV. Keynes and His Contemporaries

1. Keynes

The *Treatise*

Keynes's View of the Situation of Bank Rate Theories

Keynes's Theory in the *Treatise*

The most significant feature of the *Treatise* theory should be the coexistence of a

Wicksellian theory and 'Keynes's own theory'.

The *Treatise* belongs to Wicksellian strand of thought in explaining the fluctuations of the economy in terms of the natural and money rates of interest, and in accepting Wicksell's three conditions of monetary equilibrium.

At the same time, Keynes develops his own theory, consisting of two parts, one of which addresses the determination of variables relating to consumption goods and investment goods in 'each period' ('Keynes's own theory' can be expressed as the dynamic process consisting of Mechanisms 1 and 2 working through Mechanism 3).

After the *Treatise* Keynes went on applying 'Keynes's own theory', disregarding Wicksellian theory. The 'The Monetary Theory of Production' manuscript drafted in mid-1932 (*JMK*.13, pp.381-396) is a typical example of this approach. Subsequently Keynes proposed a simultaneous equation system in a manuscript entitled 'The Parameters of a Monetary Economy', written at the end of 1932 — the Wicksellian way of thinking left no trace or influence on Keynes's theoretical development after the *Treatise*.

It is, moreover, to be noted that the *General theory* rejects Wicksell's cumulative process theory. Keynes stresses the need to allow for interaction in the way the economy works, and equality of saving and investment.

Keynes criticizes two related ideas, namely the notion that credit creation by the banking system makes investment possible without any corresponding saving, and the theory of forced saving. In the case of the latter, he argues that it has no meaning unless some "standard rate of saving" is defined, and this is defined on the assumption of full-employment.

Keynes, is, furthermore, critical of Wicksell's natural rate of interest as well as the cumulative method, favoring an interactive method.

2. Myrdal

- Myrdal's View of the Situation of Economics
- The Cumulative Process

Based on the above system, Myrdal explains the cumulative process in three cases in which a primary change occurs: (i) a change in anticipations; (ii) a change in the money rate of interest; (iii) a change in savings. What is explained is the situation in which divergence between investment and free capital disposal is cumulatively expanding, due to the primary change.

Suppose that some primary change takes place in an economy in which monetary equilibrium has been attained. The initial impulse then induces a change in the value of real capital, while it does not induce any change in the cost of production, so that the profit margin changes, in turn bringing about a change in the demand for investment. At the same time, the initial impulse induces a change in income through a change in "total anticipated value-change of the real capital", which in turn leads to a change in saving or consumption ((i) and (ii). In (iii) saving directly changes without a change in income). As a result of all this, change also occurs in free capital disposal.

Due to the above process, monetary equilibrium is not maintained and the economy begins to move in either direction. Free capital disposal is money capital provided voluntarily by the public. The difference between the demand for investment and saving is provided by the banking system (the assumption of "freie Valuta"). This is a sort of forced saving.

A change in the demand for investment goods and for consumption goods induces a change in the roundabout production structure, which, in turn, gives rise to a change in the volume of production of both goods.

Change is then brought about in the price level of consumption goods and in anticipations.

3. Hayek

- Hayek's View of the Situation of Monetary Theory
- Hayek's Own Theory

He advocates a monetary theory that analyzes the process by which a change in the quantity of money influences the structure of roundabout production through a change in relative prices.

Hayek applies this analysis to two states of the economy, taking the cases of "voluntary saving" and "forced saving". The demarcation is whether the quantity and velocity of money remain constant and do not influence the real economy.

The former characterizes the normal state of the economy which the monetary authority should aim at, while the latter represents its disruption, prolonging disequilibrium.

V. Modern Monetary Economics under the Influences of Wicksell

VI. Conclusion

Wicksell put forward a theory of cumulative process as an alternative to the quantity theory of money. It is a theory of how fluctuations in the price level are caused by the divergence between the natural rate and money rate of interest in the organized credit economy. Wicksell took for granted the classical dichotomy.

Wicksell's theory of cumulative process greatly influenced younger economists with their immanent criticism. All of them rated Wicksell's theory highly in the evolution of monetary economics, and regarded their theories as pertaining to Wicksell's line of thought. They did not, however, accept the dichotomy, arguing that monetary theory should not be confined to the determination of absolute prices only.

However, although they concurred in rejecting the above dichotomy, they differed as to how and on what points they should or should not accept Wicksell's cumulative process theory.

In the case of Myrdal, a divergence between investment and saving (free capital disposal) induces a change in the roundabout production structure, which brings about a change in the prices of consumption goods and expectations; this, in turn, widens divergence between investment and saving. It should be noted that Myrdal reached his investment theory through his critical examination of the natural rate and market rate of interest.

In the case of Hayek, what matters is the case of forced saving which takes place through injection of money. Although the effects differ according as to whether money is injected into the investment goods or consumption goods sector, analysis of the roundabout production proves the sovereign approach.

In the case of Keynes, Wicksell's cumulative process theory seems to have been accepted most faithfully. However, what matters in the *Treatise* should be not so much this point as 'Keynes's own theory'.

Keynes shows partial acceptance of Wicksell's cumulative process theory in the *Treatise*. When we trace his theoretical development from the *Treatise* onward, however, it is essential to keep the main focus on how he proceeded with 'Keynes's own theory'. It was through his self-critical reflection on this that he eventually arrived at the *General Theory*. His harsh criticism of the Wicksellian way of thinking to be seen in the *General Theory* epitomizes the nature of the painstaking journey that he labored on for five years.