



**Research Paper by Dr. James Stodder  
Reviewed in *WirPlus* Magazine**

A research paper by Dr. James P. Stodder, Clinical Assistant Professor in the Lally School of Management & Technology at Rensselaer at Hartford, was reviewed for an article that appeared in both the French and German editions of the October 2000 issue of *WirPlus*, the monthly magazine of the WIR Bank based in Switzerland. Dr. Stodder has provided background information about his research paper, WIR Bank, the article and its author, and an English translation of the full text of the article.

**"Le Système WIR dans l'Optique d'un Scientifique Américain"**

The above-named article was written by Professor Tobias Studer, an economist at Basel University, Switzerland. It appeared in the October 2000 edition of *WirPlus*, monthly magazine of the WIR Bank, in both its French and German editions. WIR ([www.wir.ch](http://www.wir.ch)) is a medium-sized Swiss bank, established in the 1930s, with an annual turnover of some 2 billion Swiss Franks (about 1.2 billion in US Dollars). "WIR" is a shortening of *Wirtschaftsring*, or "Economic Circle," and is also the pronoun "We" in German.

This **WirPlus** magazine article reviews a formal research paper by a Rensselaer at Hartford faculty member, James Stodder. Stodder's research paper, entitled "Reciprocal Exchange Networks: Implications for Macroeconomic Stability," is a statistical analysis of the bank's post-war history. His paper shows that WIR's centralized "barter" arrangements -- based on reciprocal credit arrangements rather than on Swiss currency -- play a stabilizing role in the national economy. This has encouraging long-run implications for the evolving internet economy. E-commerce shows tendencies toward a system of reciprocal credit and exchange, rather than traditional monetary transfers.

This is reprinted from the French version, entitled, "Le Système WIR dans l'Optique d'un Scientifique Américain"

**"The WIR System in the View of an American Researcher"**

*by Professor Tobias Studer  
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**American research findings show that WIR contributes to the stabilization of the Swiss national economy. In periods of economic boom WIR activity shows**

**less-than-average growth, while in periods of recession it shows greater-than-average growth. Over the course of 52 years, there has been another correlation - that between the WIR system and unemployment: while the number of unemployed grows, the activity of the WIR system also grows, playing the role of a stabilizer.**

At the international conference of the Engineering Management Society, held August 13-20 2000 in Albuquerque, New Mexico, Professor James Stodder, of the celebrated Lally School of Management and Technology of Rensselaer Polytechnic Institute, presented his results. His research project had the objective of analyzing the WIR system of payments. These results are scientifically important, inasmuch as the experience of the WIR system of payments allows us to draw precise conclusions on the future consequences of e-commerce within a national economy.

Equally, however, are these results of interest to the WIR bank itself. For the first time, an independent American researcher has arrived at a surprising conclusion: far from representing a factor of disturbance for national monetary policy, the credits created by WIR constitute a support of the National Bank (Swiss Central Bank) in pursuit of its monetary policy objectives.

### **E-Business and "Barter" Exchanges**

Exchange without monetary payment, such as practiced by the WIR system and numerous other "barter" exchanges, has enjoyed a veritable renaissance with the advent of the internet. One of the principal barriers opposing barter up until now -- the difficulty in finding suitable partners for any exchange -- has disappeared with the internet, since this medium can resolve, in an optimal manner, the problem of identifying potential trade partners. Using the internet, each supplier can present his or her offers to the entire world with minimal difficulty, at any hour of the day or night. Furthermore, it will be quite easy to update this offering as necessary. The trading exchange assumes diverse functions, including standardization of information on the presentation of clients, products, and services.

### **E-Business and the Meaning of Money**

In principle, it would be possible to make all non-reciprocal purchases on the internet using a conventional payment script or voucher, before receiving the goods. But if the seller and buyer are both in electronic contact, it is more practical, quicker, and less risky to finalize sale and the payment in the same transaction. Nowadays, payment with credit or debit cards has become quite widespread. Nevertheless, this method of payment entails needlessly high transaction costs. Methods of payment are evolving in more advantageous directions, as for example direct withdrawals from bank accounts, or payment via "e-cash" or virtual money.

The ordinary money printed by Central Banks [e.g., the Federal Reserve, or the National Bank of Switzerland], indeed, is becoming quite superfluous, and its

importance greatly reduced with the growing proliferation of the internet in the world economy. For some time now, indeed, economists have been asking themselves what a world without conventional money might look like. Will national currencies survive, or will we witness the birth of a global internet currency? Will Central Banks survive? Will the global economy implode? Would we still need to fear uncontrollable inflation? Would the global economy still need to pass through crises of "overheated" demand? For economists, these questions are not only interesting -- the internet means they are being posed in a new way.

### **A New Area for Basic Research**

Rensselaer Polytechnic Institute in Troy, in the state of New York, is a specialized research institution, one that is examining the economic consequences of the internet. Located on a hill overlooking the Hudson River, a few hours drive from New York City, Rensselaer is one of the oldest and most renowned American universities, dating from its founding in 1824.

### **James Stodder and the WIR system of Payments**

James Stodder is one of 400 professors at Rensselaer; he has studied economic science at Harvard, Essex (UK) and Yale. Since 1990, along with the Lally School of Management and Technology, he has worked with the Economics faculty at Rensselaer Polytechnic Institute.

Professor Stodder is a "polyvalent" economic theoretician, one who has become known in numerous publications in well-known specialist journals. Over the last few years, among other things, he has specialized on economic activity that takes place without direct monetary exchange, in particular, on forms of barter. As precursors of "money-less" e-commerce, traditional barter exchanges represent excellent subjects for analysis, especially since one finds them accompanied by a substantial amount of statistical data. Furthermore, given the similarities between both forms of commerce, it may be possible to draw conclusions on the future of e-commerce by analyzing the economic effects of barter exchanges.

Searching the world over for adequate statistical data, Stodder came across the WIR system and integrated this into his research. By reason of the extraordinary continuity of available data (*Annual Turnover*, *Number of Clients*, and *Volume of Credits Advanced* from 1948 to 1999 -- a period of 52 years) the WIR system would become for Professor Stodder one of the principal objects of his analysis.

### **The Conclusions of Professor Stodder**

One can say, in summary, that in the course of the last 50 years, the WIR system has given proof of its profoundly anti-cyclical character. In periods of economic boom, it has tended to grow more slowly than the economic average, while in periods of recession, it has tended to grow more quickly than average. Thus it contributes to the

stability of the Swiss economy. Such stability, of course, is the primary objective of the monetary policy of the Swiss National Bank. The system of WIR is thus, whether intentionally or not, a useful partner to the National Bank --and certainly not a force to disturb its monetary policy.

It is particularly important to emphasize the contribution the WIR system makes to stabilizing rates of economic activity, particularly in the fight against unemployment. It is especially in this realm that Professor Stodder has identified a very pronounced statistical correlation. Each time that the level of unemployment has risen over the past 52 years, the activity of WIR has also risen, as a compensating factor.

Professor Stodder has measured WIR activity by means of the number of clients, and the relation between the Volume of Credits and the Annual Turnover. The activity of the WIR system is equally anti-cyclical in relation to Gross National Product: faster growth in the GNP is always accompanied by slower growth in WIR activity. Finally, there exists a positive link between merchandise inventories and WIR activity: in cases when there is a fall in sales and a parallel growth in inventories, the WIR system facilitates the reduction of inventories and thus, indirectly, contributes to overall economic stabilization. In checking his findings, Professor Stodder has worked with alternative parameterizations, which permit him to verify the same conclusions.

Stodder's findings for the Swiss economy are extended by his study of the effects of US "barter" exchanges -- an analysis leading to similar results. In the US, an association of barter exchanges is equally distinguished by its anti-cyclical history. This is therefore manifestly a conclusion which is verified at the international level.

## **Conclusions**

The results of the research of Professor Stodder are interesting for two reasons:

First of all, it is reassuring to know that the revolution now underway in e-commerce is not tending toward a destabilization of the world economy, but rather is contributing to stabilization. Other studies up to this point have arrived at similar conclusions, noting the stabilizing effect of greater transparency in internet transactions.

Secondly, it is good news for friends and clients of the WIR system of payments, who are sometimes reproached about the "destabilizing" influence the WIR system might have on national monetary policy. It is good to know that, not only are these criticisms without foundation, but that, contrary to those assertions, the WIR system has a positive influence on the national economy.

That these conclusions come by way of a disinterested and neutral researcher only serves to increase their value.

Last Updated: Thursday, January 18 2001 12:52  
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