







Home ▶ All Journals ▶ Economics, Finance & Business ▶ Quantitative Finance ▶ List of Issues

➤ Volume 10, Issue 4 ➤ International trade and financial integr

Ouantitative Finance > Volume 10, 2010 - Issue 4

1.946 120

Views CrossRef citations to date Altmetric

Research Papers

International trade and financial integration: a weighted network analysis

Stefano Schiavo , Javier Reyes & Giorgio Fagiolo

Pages 389-399 | Received 04 Jul 2007, Accepted 16 Jan 2008, Published online: 05 Oct 2009

66 Cite this article ▲ https://doi.org/10.1080/14697680902882420

> Sample our Mathematics & Statistics >> Sign in here to start your access to the latest two volumes for 14 days

Full Article

Figures & data

References

66 Citations

Metrics

Repri

Abstra

The auth complex

delivers

properti

the IT core-

markets of count tightly in

crisis ha only in a

Keywords

We Care About Your Privacy

We and our 907 partners store and access personal data, like browsing data or unique identifiers, on your device. Selecting "I Accept" enables tracking technologies to support the purposes shown under "we and our partners process data to provide," whereas selecting "Reject All" or withdrawing your consent will disable them. If trackers are disabled, some content and ads you see may not be as relevant to you. You can resurface this menu to change your choices or withdraw consent at any time by clicking the ["privacy preferences"] link on the bottom of the webpage [or the floating icon on the bottom-left of the webpage, if applicable]. Your choices will have effect within our Website. For more details, refer to our Privacy Policy. Here

We and our partners process data to provide:

I Accept

Reject All

proaches Show Purpose

 nd

ound that

using

k display a

in financial

n a handful

m groups of

ent financial

ig markets

Acknowledgements

International integration

We would like to thank Marc Barthélemy, Helmut Elsinger, Diego Garlaschelli, Bertrand Groslambert, Cal Muckley, participants at the 5th INFINITI Conference and the Net2008 Workshop, as well as two anonymous referees, for their useful and insightful comments on earlier drafts of the paper. All usual disclaimers apply.

Notes

¶At the

 \perp Examples of classical studies in the field include Rapoport and Horvath (<u>1961</u>), Milgram (<u>1967</u>), Granovetter (<u>1974</u>), and Padgett and Ansell (<u>1993</u>).

†We refer the reader to Fagiolo et al. (2009) for more formal definitions of network concepts.

<u>)07</u>), the †Among X e edges in one use nd that is any triar invarian nate single nodes b ‡Then, v ons seen above, i ce of finar §It is wo is still debated occurs only when 'as ive of their domicile irsue a direct m

list of countries used in the analysis is reported in Appendix A; note that a few

ailable. The

important players such as China did not participate to the survey.

⊥A perfect match was impossible to achieve, since the CPIS includes a number of small financial centres for which no trade data are available.

†This includes also instances where a positive figure is censored, i.e. we know that cross-holding of that particular asset is positive but we ignore its magnitude.

‡The full set of results on symmetry is available upon request.

§In the rest of the paper we will only discuss the network of total financial assets.

Results for specific asset types do not change much from a structural point of view. A brief discussion is nevertheless presented in <u>section 5.6</u> below.

¶One alternative possibility to deal with very dense graphs is to define thresholds for the interactions among links (see Kali and Reyes 2007), which allows one to eliminate 'weak' ties. We will see in what follows that a threshold approach does not allow us to recover the results of weighted analysis.

⊥The support of the distributions is standardized to offset the impact of different sample sizes.

†Size-rank plots display the fraction of nodes with a degree (strength) higher than a given va cumulative distribut distribut ‡A furthe ade network is only s minimum †To com es 2007), thres which statistics imply a IND ranges betweer ıks bld connect artificial not a correct ssed above. Similar o links.

†In the binary case, the random network amounts to a graph with same density but reshuffled links. In the weighted case, we keep the binary structure constant and we reshuffle link weights. The comparison between the observed correlations and those computed for the random networks is similar for both the binary and the weighted networks. In the latter case, however, differences are significant only at a level of 7–15%.

‡In the international trade literature, a large body of evidence have investigated the role of distance in the context of so-called gravity models (see for instance Brun et al. 2005). Recently, this methodology has been applied to financial data as well: Portes and Rey (2005) suggest that distance proxies some information costs. Furthermore, Hau (2001) postulates that informational asymmetries in financial markets may depend on investor location.

†This point is confirmed by a comparison of the binary results with a 'threshold analysis'. As before, we have set a minimum value for each link weight, so as to retain only 80% of all trade links and then computed binary indicators (as proposed in Kali and Reyes 2007). In the case of the correlation between node degree and clustering, results from this 'threshold-based' analysis not only confirm the negative sign, but the coefficient is much more negative, ranging between – 0.88 and – 0.86, thus conveying a picture substantially different from the one obtained through the weighted approach.

‡The sar than absolute above the stress of centrality

†The full request.



Notes

Javier I

Giorgio Fagiolo

||E-mail: giorgio.fagiolo@sssup.it

Related Research Data

Generalizations of the clustering coefficient to weighted complex networks

Source: Physical Review E

The architecture of complex weighted networks

Source: Proceedings of the National Academy of Sciences

The architecture of globalization: a network approach to international economic

integration

Source: Journal of International Business Studies

Complexity and synchronization of the World trade Web

Source: Physica A Statistical Mechanics and its Applications

A General Framework for Weighted Gene Co-Expression Network Analysis

Source: Statistical Applications in Genetics and Molecular Biology

Location Matters: An Examination of Trading Profits

Source: The Journal of Finance

World-trade web: Topological properties, dynamics, and evolution

Sourc × Socio-Direc Econo Source Stron Sourc A stu Sourc Robu Sourc The I Sourc Struc nal Trade Sourc

Weighted Evolving Networks: Coupling Topology and Weight Dynamics

Source: Physical Review Letters Intensity and coherence of motifs in weighted complex networks Source: Physical Review E The determinants of cross-border equity flows Source: Journal of International Economics Measuring European Financial Integration Source: Oxford Review of Economic Policy **Emerging Markets Finance** Source: SSRN Electronic Journal Patterns of dominant flows in the world trade web Source: Journal of Economic Interaction and Coordination Has Distance Died? Evidence from a Panel Gravity Model Source: The World Bank Economic Review The external wealth of nations mark II: Revised and extended estimates of foreign assets and liabilities, 1970-2004 Source: Journal of International Economics Structure and evolution of the world trade network Source: Physica A Statistical Mechanics and its Applications Fitness-Dependent Topological Properties of the World Trade Web Source: Physical Review Letters A Longitudinal Analysis of Globalization and Regionalization in International Trade: A Social Network Approach Sourc X **Finan** Sourc Topol Sourc ıltiple-Struc Netw Sourc Relate

Information for Open access **Authors** Overview R&D professionals Open journals Editors Open Select **Dove Medical Press** Librarians Societies F1000Research **Opportunities** Help and information Reprints and e-prints Advertising solutions Newsroom Accelerated publication Corporate access solutions Books Keep up to date Register to receive personalised research and resources by email Sign me up X or & Francis Group Copyright