

Portland West Time Dollar Exchange Dataset

Ed Collom

University of Southern Maine

Portland, Maine

Author

Ed Collom, is a Professor of Sociology at the University of Southern Maine in Portland, Maine.

Please send all correspondence to collom@usm.maine.edu.

1. Overview

The Portland West Time Dollar Exchange (PWTDE) dataset contains the recorded transactions from a local currency group that existed in Portland, Maine for over four years. Such voluntary organizations allow participants to exchange services and goods without the use of federal money (see Collom, Lasker, and Kyriacou 2012). Unlike bartering (a direct swap between two parties), local currencies create a network of people and organizations in which transactions are tracked with an alternative currency. Time banks use time as their currency. The amount of time that a member spends helping another is entered in a database so that the provider is credited with “time dollars” (or “hours”) and the recipient’s account is debited. The other major form of local currency in the United States, the Ithaca Hours model, employs printed bills that members exchange for services or goods (see Collom 2005).

The PWTDE began in February, 2002 and was embedded in Portland West, a community-based social service agency. The organization ran out of grant funds to support its community outreach programs and was forced to close the time bank in June 2006 (Doherty 2006). At that time, all PWTDE members were invited to join Portland’s larger and better-known time bank, the Hour Exchange Portland (see Collom et al. 2012).

The data consist of the 2,316 recorded transactions involving 6,712 hours of services exchanged among the 319 members at PWTDE over the course of its history. A multitude of social network analyses are possible with this dataset. It is longitudinal, directed, and valued. The date of each transaction is included, making it possible to investigate the evolution of the network across time (see analyses by quarter in Collom 2012). The ties are directed; one member has provided a service to another. The amount of time that the exchange took (the number of time dollars earned) is the value of the tie. Moreover, investigations of qualitative aspects of the ties are also

possible as the services exchanged in the transactions have been categorized into 13 broad types (see Collom 2012; Collom et al. 2012):

- 1) Health and Wellness (e.g., yoga, acupuncture, meditation),
- 2) Beauty and Spa (haircut, massage, facial),
- 3) Office and Administrative Support (clerical help, bulk mailing),
- 4) Computers and Technology (computer repair, website design, audio/video production),
- 5) Tutoring, Consultation and Personal Services (lessons, tutoring, basic computer assistance, childcare),
- 6) Construction, Installation, Maintenance and Repair (carpentry, painting, yard/garden maintenance),
- 7) Cleaning, Light Tasks and Errands (cleaning, mending and alterations, errands),
- 8) Food Preparation and Service (cooking, catering),
- 9) Transportation and Moving (transportation, moving assistance, hauling),
- 10) Entertainment and Social Contact (companionship, performances, telephone assurance),
- 11) Events and Program Support (assistance with project/event, committee meetings),
- 12) Sales and Rentals of Items (purchase of used goods, space rental), and
- 13) Arts and Crafts Production (arts and crafts, artwork).

The dataset also includes three attributes of members. The first identifies whether the member is an individual or an organization. Most time banks have organizational members (usually nonprofits, community agencies, or small businesses). The gender and age of individual members are the other attributes.

2. Data Collection

This is a secondary dataset of information originally collected by PWTDE staff in a Microsoft Access-based software program called TimeKeeper (Gordon 1995). This software was designed for use by time bank coordinators to record member’s hours of exchanges. In the early era of time banking, providers of services were instructed to

contact the office (via phone, mail, or email) whenever they provided a service to someone. A staff member would then enter the transaction (including the provider, recipient, date of exchange, number of hours, and type of service) into the TimeKeeper database. Today, most time banks have web-based software in which members enter their own transactions.

The author was provided with an exported spreadsheet of relevant fields from the transaction table as well as the member table from the TimeKeeper database. With the exception of two organizational accounts identified below, the former members of this time bank are anonymous in these data.

3. Data Files and Formats

This dataset is provided in one Excel spreadsheet (“PWTDE.xls”) which contains two worksheets (tabs). The first worksheet (“Transactions”) contains the relational data. Each row represents a single transaction and lists the provider’s ID, the receiver’s ID, the length of time of the transaction (number of time dollars earned), the service category (described above), and the date of the transaction. The first transaction in PWTDE occurred on February 7, 2002 and the last on June 1, 2006. This

relational data is complete with the exception that 95 of the 2,316 transactions (4.1%) are missing service categories and have been coded “99” (these are transactions that had been entered into TimeKeeper as “miscellaneous”).

If users are employing UCINET 6 software (Borgatti, Everett, and Freeman 2002), the “edgelist1” or “edgearray1” DL file formats are most conducive for importing these transaction data. The latter allows one to import all of the attributes of the ties at once (note that the date field should be reformatted into a numeric value instead of the MM/DD/YYYY format). However, it will be easiest to just focus on the transactions (ignoring the service categories and dates) to begin. The edgelist1 DL file format can be employed to import the provider, receiver, and TDs (time dollars) fields. The values in the resulting matrix will be the sum of the total hours provided by each member to each other member. In other words, if member X provided a one hour service to member Y on ten separate occasions, the value of the X:Y tie in the matrix will be 10. If one imports only the provider and receiver fields, the resulting matrix will identify the total number of transactions X provided to Y. It is important to understand and recognize the distinction between the number of hours of services provided versus the number of transactions provided. The former is likely the more

4. Data Details	
Response Rate	100%
Non-Respondent Bias	N/A
Theoretical Grounding	N/A with the exception of the coding of the service types described above.
Publications Using These Data	Collom (2012); See Collom et al. (2012) for examples of analyses employing similar data.
Data Context	Recorded transactions from the database of a time bank that existed in Portland, Maine from 2002-2006.
Respondents	N/A
Longitudinal	Yes, the date of each exchange is included.
Temporality	Time banks vary dramatically. This dataset captures the complete history of one of these voluntary organizations.
Analytic or Pedagogical Utility	This dataset is all about who exchanges what with whom within a local currency group. See Collom (2012) for a list of key indicators of time bank participation that can be derived from this dataset. Additionally, a wide variety of social network concepts can be investigated with this longitudinal, directed, and valued transaction data and the accompanying member attributes.
Known Issues	Minor levels of missing cases and some time bank members do not report all of their transactions (see above).
Analytical or Pedagogical Utility	<ul style="list-style-type: none"> • Illustrating homophily with categorical attributes. • Illustrating small world properties in both, positive and negative networks. • Illustrating the QAP Correlation.
Known Issues	None

important since it captures the total time one member spent providing services to another. Of course, one could ignore both the number of hours and transactions and dichotomize the matrix to simply indicate whether X has ever provided a service to Y.

The second worksheet in the Excel file (“Attributes”) contains the available attribute data on the members. The ORG variable distinguishes the 300 individual members (coded “0”) from the 19 organizational members (coded “1”). Two of these organizational members are noteworthy. First, the time bank itself has an account since members often provide services for their time bank (such as clerical help in the office). In this dataset, PWTDE is member #2932. Portland West, the host agency of PWTDE, is member #2541 and the recipient of more services than any other participant (most of these hours were earned by people who volunteered in their learning center).

The SEX variable differentiates the 89 male members (coded “1”) from the 211 female members (coded “2”). Such gender disparity is typical in time banks (see Collom et al. 2012). The AGE variable provides each individual member’s age at the time of their initial participation (their first transaction). There were 22 members (7.3%) for which no birth date was available in the database (these missing values are coded “998” while the organizational members are coded “999” on this variable).

In addition to the missing cases involving the service categories and age attribute, it should be noted that transaction records are not perfect (see Seyfang 2001; Lasker et al. 2011; Collom et al. 2012). Some members do not report all of their transactions. One of the ironies is that unreported hours are sometimes the result of the success of time banking itself. As members get to know each other better and establish relationships with those with whom they are exchanging, recording transactions with friends may begin to seem unnecessary or even inappropriate. In other cases, members have high balances and simply do not bother. Some may also forget to report the services they have provided. Thus, while a time bank’s transaction records reflect its “official” balances, they are an undercount of the exchanges that occur among members. It is not possible to know how such underreporting might bias this dataset.

References

- Borgatti, Stephen P., Martin G. Everett, and Linton C. Freeman. (2002). *Ucinet for Windows: Software for Social Network Analysis*. Harvard, MA: Analytic Technologies.
- Collom, Ed. (2005). “Community Currency in the United States: The Social Environments in which it Emerges and Survives.” *Environment and Planning A* 37 (9): 1565-1587.
- Collom, Ed. (2012). “Key Indicators of Time Bank Participation: Using Transaction Data for Evaluation,” *International Journal of Community Currency Research*, 16: A18-29. Available online: <http://ijccr.files.wordpress.com/2012/04/ijccr-2012-collom.pdf>
- Collom, Ed, Judith N. Lasker, and Corinne Kyriacou. (2012). *Equal Time, Equal Value: Community Currencies and Time Banking in the US*. Surrey, England: Ashgate Publishing.
- Doherty, Nick. (2006). “Money Talks: Searching for the Almighty Time Dollar.” *The Portland Phoenix* 6 July. Available online: <http://portland.thephoenix.com/news/16762-money-talks/>
- Gordon, E. Kent. (1995). *Timekeeper for Time Dollars* Version 2.11.
- Lasker, Judith, Ed Collom, Tara Bealer, Erin Niclaus, Jessica Young, Zane Kratzer, Lauren Baldasari, Ethan Kramer, Rachel Mandeville, Julia Schulman, Danielle Suchow, Abby Letcher, Anne Rogers, and Kathy Perlow. (2011). “Time Banking and Health: The Role of a Community Currency Organization in Enhancing Well-Being.” *Health Promotion Practice* 12 (1): 102-115.
- Seyfang, Gill. (2001). “Community Currencies: Small Change for a Green Economy.” *Environment and Planning A* 33 (6): 975-96.