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Facilitating Information Sharing and Collaboration through Taxonomy at the Federal Reserve Board
Poster

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Abstract

The Research Library at the Board of Governors of the Federal Reserve System developed the Board Subject Taxonomy (BST) by organizing and standardizing key concepts into a vocabulary of subject terms that describe staff economists' research and policy work. The goal was not just to have a taxonomy; rather, we sought a way to better facilitate sharing, collaboration, and discovery of information across systems. To that end, the Library staff has developed several tools to allow the taxonomy to forge relationships and connections across disparate sources. The BST acts as a critical semantic link to bring together data, researchers, and publications that were previously isolated from each other. The BST is currently deployed in a data inventory (*DataFinder*), research publication repository (*OneBoard Research*), an expert directory (*Board Expert Finder*), and a researcher index (*Economist Similarity Index*). The Board Subject Taxonomy is significant in that it brings together economists' research and interests using the Federal Reserve vernacular, to help transcend the silos of information in our agency. The BST is central to metadata quality as it helps keep the tools we developed in sync with each other and produces interoperability.

The BST was developed in accordance with controlled vocabulary standards and is influenced by a range of taxonomies, from the Journal of Economic Literature (JEL) Classification System and the Thesaurus for Economics (STW) created by the Leibniz Information Centre for Economics (ZBW) to internal lists of keywords. The project was initiated in late 2012 by a senior management directive to provide a uniform list of terms to describe Board research across the various divisions. Initial work involved focus groups consisting of researchers and policy analysts, surveys, and evaluation of existing vocabularies in use at the Board. Next, prospective vocabularies were developed by merging JEL with internal, home-grown vocabularies and mining keywords and tags associated with our economists' research. A beta version of BST was released in April 2013, and terms began to be applied to working papers by 2014. In late 2014, the team shifted the management of the terms from a spreadsheet to a thesaurus management tool that could help keep relationships among the terms up to date and impose formatting based on ANSI/NISO Z39.19-2005. The change in tools moved the taxonomy from a flat list to a hierarchical structure with an emphasis on BT/NT and RT relationships. Beginning in late 2016 and continuing into the near future, focus is on the transformation of the thesaurus from a single hierarchy to a faceted taxonomy, to aid in search and discovery, and to meet the need for esoteric vocabularies used at the Board. Facetization began with the identification of branches within the taxonomy that could answer user questions on their own. These were concepts such as types of financial institutions and instruments. The creation and maintenance of the BST has served as the Research Library's entry to the Board's initial linked data efforts. Recent work has focused on supporting the transformation of the taxonomy into RDF for use in a semantic search tool.

Discovering relevant terminology from each operational unit to build a robust taxonomy was, and in some cases still is, hindered by the lack of a shared vocabulary. Our librarians worked with

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users in various sections of the Board to gain an understanding of their vocabularies/classification systems and information organization practices. This partnership was essential to establish the BST, and the collaboration continues. Key technological challenges that we have addressed: 1. the means by which the taxonomy is managed; and 2. the means by which it is applied. Currently, staff manually assign and maintain terms. In the future we aim for automation in term assignment and management.

The real measure of our success has been the myriad ways we have used the BST to improve search and discovery at the Board. These include:

- OneBoard Research, a digital repository for finding Board research tagged with BST terms;
- DataFinder, an online inventory of licensed and acquired data assets tagged with BST terms;
- Board Expert Finder, a tool for locating subject experts, to help build communities of practice. BST terms assigned to publications in OneBoard are used to generate a directory of experts;
- Economist Similarity Index, an index for assessing research interests, thus helping Board researchers find and make new connections with individuals having similar interests. This last endeavor is one of the more exciting, because it emerged from end user conversations and is entirely responsive to user needs.

Our key accomplishment has been to exploit the power of robust metadata: using it to repurpose information in diverse systems (library catalogs/inventories, research repositories) and collect that information for use in home-grown, dynamic search tools that meet user needs. For the development of the Economist Similarity Index, to give an example, we worked with a user who wanted to find economists who wrote on similar subjects. Because we use the same taxonomy to describe all publications, we leveraged that metadata to answer the question and built an Index based on an algorithm had similarity ratios for each economist

In the future, our efforts will be based on user demands and have strong connections to business needs at the Federal Reserve Board. These efforts are to include:

- Expansion of vocabulary and facets to include terms relevant to collected data (that is, data collected by the Board in its supervisory and regulatory role);
- Development of user-specific vocabularies for Board Information Technology specialists;
- Establishment of a Diversity vocabulary, in line with the Strategic Mission of the Federal Reserve Board, to illustrate the depth of research done on economic inclusion;
- Expansion of terms to describe the technical and mathematical aspects of economics research more granularly;
- Repurposing of our metadata, including BST in an enterprise-level data inventory, powered by a semantic search tool. This coincides with our move towards revising the BST using RDF/SKOS, which offers greater interoperability;
- Marketing and branding of the taxonomy to raise awareness of it as a support tool that aids in search and discovery;
- Opening up OneBoard Research, the Board's research repository, on the public website;
- Providing the BST as linked open data so other institutions/individuals can make use of it.

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