Panel 2: Data Quality, Data Gaps, and Information Arbitrage
Thursday, October 26, 2016 at 11:15 a.m.
University of Michigan Law School, Hutchins Hall 100

Moderator:
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Panelists:

Linda Avery, Chief Data Officer, Federal Reserve Bank of New York

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Information is the most precious asset in financial markets. Asset prices move with information flows about fundamentals of the economy, lending decisions depend on information availability about borrowers, and corporate investments move in tandem with information about current and future investment opportunity sets. It is only natural that financial regulations have focused a lot of attention on timely and accurate availability of information to market participants. However, unlike other spheres of regulations, regulations based on information provisioning present their own unique challenges and opportunities. What kind of information should be collected and disseminated? What are some of the big gaps in information and data availability in our current financial system? How can we improve the quality of financial data? Is more information necessarily better? Our panel will discuss some of these challenges with some suggestions on opportunities that can be exploited for better functioning of financial markets going forward.

Financial economists, practitioners, and regulators care about information in a multitude of settings covering markets as diverse as stocks, bonds and mortgages and any derivative securities built on them. However, at its very core it is often helpful to think about information issues around two broad themes: (i) opacity, and (ii) asymmetry. Information opacity is simply the absence of information with every agent in the system, whereas

information asymmetry is all about differences in information available to different parties in the same trade. If no one knows anything about the probability of striking oil under a piece of land, then it represents a situation of information opacity. On the other hand, if the seller of the piece of land has a better idea about the probability of striking oil compared to a potential buyer, then it represents a situation of information asymmetry. In the same vein, if no one knew about the true value of mortgage backed security during the peak of the financial crisis of 2008-09, I would call it an issue of opacity. If the originators and sponsors of securities knew better than the passive buyers, I would classify the situation under that of asymmetry. Needless to say, as more information becomes available about a security and it becomes less opaque, the information asymmetry concerns also begin to come down.

The origins of a number of market failures and breakdowns can be traced down to issues surrounding information opacity and asymmetry. In extreme cases, uninformed agent might just refuse to trade with the informed parties leading to a total breakdown in the marketplace. Private contracts and market based regulations attempt to overcome these frictions by mechanisms such as better disclosure requirements, careful security design, and active monitoring by parties such as rating agencies and banks. We have made a lot of progress in this direction over the past century, but the recent financial crisis has clearly highlighted problems with the quality of data and a number of gaps in data we collect in financial markets. This panel will discuss these issues around some broad themes highlighted below.

Improving data availability

Financial securities have become increasingly complex over the years; information disclosure and data quality on the other hand has not kept pace with it. Consider, for example, structured financial products such as CMOs and CDOs in mortgage or bond markets. As securities get packaged and sliced into several pools, only to be further packaged and sliced into a different pool backing yet another security, tracking the underlying asset becomes an increasingly difficult task. Without clear and identifiable data on the fundamentals of these underlying securities, valuation of these securities becomes a complex task. Concerns such as information opacity and asymmetry become more relevant, and it may end up creating disastrous consequences for the functioning of the whole market. These concerns were responsible for at least a part of the meltdown in the structured financial market during the height of the financial crisis and problems associated with foreclosures on home mortgages in its immediate aftermath. Similarly in global financial markets, it can be extremely useful to have a unique identifier for all entities that engage in financial transactions.

Recent initiative on Legal Entity Identifier (LEI), a unique code to identify legally distinct units in financial transactions, is a commendable move in that direction. Similarly, there has been an increased effort in collecting and disseminating information on loan originators and appraiser identifier in the mortgage market through initiatives such as NMLS identifier system. At a very fine level, initiatives such as unique loan identifier for each mortgage loan in the country and improvements in disclosure requirements in the HMDA databases are also

geared towards removing data gaps that can lead to severe information friction in the economy. These initiatives should allow financial market participants to better assess the quality of underlying assets and thus they should decrease valuation uncertainty present in a number of markets. In turn, we should see higher liquidity and a better functioning of these markets especially in stressful periods of the economy.

Costs of improved data availability

The benefits of higher data availability, however, must be weighed against two important costs they impose. The first one is about privacy concerns. Consider the disclosure requirements on mortgage loans. As we disclose and make more information publicly available about mortgages, we end up making available more information about the borrowers themselves. Where lies the fine balance between privacy and disclosure? We must be cognizant of such concerns to minimize these costs that accompany higher disclosure. The second cost a bit subtle. If all the information relevant for a security's valuation is made publicly available, who in the private sector will have an incentive to collect and trade on that information in the first place? Public provisioning of information does not automatically guarantee improvement in welfare -- we must understand the potential distortions in incentives it generates in the private financial markets to assess the net benefit of these policies to society. A number of private sector entities compete in gathering and processing information about the fundamentals of the assets and through their trade make financial markets more efficient. Are we likely to discourage private sector players from gathering value-relevant information with these initiatives? We must preserve the benefits of competition and price informativeness that comes with the active participation of private players while thinking about regulatory policies on data availability.

Feedback effects

A central theme in economics of regulation is the idea behind Lucas critique that roughly states that policies formulated based on historical experience and data might not be optimal in future because the agents may systematically change their behavior in the new regime. Related, as we change the information structure of the economy through closing data gaps and improving data disclosure requirements, we must think hard about the effect of these changes on financial market participants' behavior. I worry about two possible effects. The first one is about the quality of data itself, and the second one about changes in investment behavior that might come with disclosure requirements. Will some agents try to overcome reporting requirements by simply changing the nature of product or by moving it to a non-regulated sector? Will some agents simply reduce the level of activities due to higher data reporting costs and will such a move decrease competition in the sector? We saw a number of traditional banking activities move to shadow banking sector in the run-up to the financial crisis. While the motivation of these activities ranged from regulatory capital arbitrage to lower burden of information disclosure, I see some parallel between these activities and

moves that are aimed at improving data availability in the financial sector. We must be proactive in terms of thinking about these incentive effects as we design policies.

Macroeconomic effects

The final point we want to address in our panel is about data gaps from a macroeconomic perspective. We can have all the data in the world, but it will be of no use if we are unable to see the big macroeconomic picture that emerges from the data. A couple of issues are especially salient from a macroeconomic perspective. We must have the ability to connect the dots across markets to get a better sense of broad direction of the economy. Banking failure presents a classic example in this context. Think of a network of banks where each bank is able to share risk with each other bank in the economy, thereby reducing its individual failure risk. In contrast to this completely connected network, think about another extreme where each bank is isolated and hence unable to share its risk. The second system has very high individual bank failure risk, but conditional on one bank's failure the probability of a complete collapse of the system is very low. The first network, on the other hand, has low individual risk but it comes at the expense of very high systemic risk. Our approach to data collection and must be able to capture such trade-offs: system-wide risk is often not the same as the sum of risks of individual entities. Our panel will discuss issues related to data gaps at the macroeconomic levels as well.

In sum, there are several open questions on how best to improve data quality and plug data gaps. A number of commendable steps are being taken in these directions. But we should also be mindful of some trade-offs that come with such an exercise, notably privacy concerns and concerns about changes in financial market participants' behavior in response to the changes in disclosure requirements.