



THE RISE OF THE DATA-DRIVEN ECONOMY: IMPLICATIONS FOR GROWTH AND POLICY



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CONFERENCE REPORT



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INTRODUCTION

On October 10-12, 2012, the Progressive Policy Institute joined forces with John Cabot University in Rome to highlight the transformative potential of rise of data-driven economic innovation and growth. Hosted by John Cabot in collaboration with the Guarini Institute, the European Privacy Association and the Center for European Policy Studies, the transatlantic dialogue brought together representatives of leading U.S. technology companies and European Union officials, as well as analysts and experts from think tanks, non-profit organizations and academia.

Entitled *The Rise of the Data-Driven Economy: Implications for Growth and Policy*, the discussion centered on the increasing contribution of data-driven activity to economic growth in the United States and Europe; the European Union's controversial data protection regulation; the responsibility of companies to build trust by being "ethical stewards" of their customers' data; and, political threats to an open and free Internet.

WHY DATA-DRIVEN GROWTH MATTERS

PPI President Will Marshall began by explaining why the Washington-based think tank had organized the Rome forum in the midst of a heated U.S. presidential election. The main issue in that campaign – how to create high-wage jobs and revive economic competitiveness – also happens to be Europe's most urgent challenge, he said. In fact, Europe faces even higher levels of unemployment – nearly 12 percent – as well as a sovereign debt crisis that threatens to unravel the Eurozone. "Both of us are struggling to build a productive base big enough to support our progressive aspirations for equal opportunity and social justice," Marshall added.

Data-driven activities – the production, distribution and use of digital information of all types – are integral to meeting this challenge. Already they have become the leading edge of economic innovation and growth in the United States, generating major business investments in mobile, high-speed broadband, as well as jobs in "App" development and big data processing – an industry that scarcely existed a decade ago. As the most technologically advanced and data-intensive societies in the world, America and Europe are well positioned to reap gains from the growing volume of cross-border trade in data.

At a time when rumors of Western decline abound, "Data-driven growth represents a key source of comparative advantage for the open societies of the West in economic competition against China's model of authoritarian capitalism," Marshall said. But that's only true if Europe and America work together to protect a "robust digital ecosystem," he concluded. The Rome conference aimed at fostering such collaboration.

THE RISE OF THE DATA-DRIVEN ECONOMY

A Michael Mandel, PPI's Chief Economic Strategist, noted that the Internet publishing, search and social media industry is America's fastest growing industry, showing a 44 percent gain in jobs over the past four years. U.S. sales of mobile devices and data services are growing exponentially: The volume of data transmitted through mobile connections is expected to increase 120% this year alone. Citing a study he conducted earlier this year, Mandel estimated that U.S. App developers have created over 500,000 Apps-related jobs since the first smart phone came on market in 2007.¹

Big data – the collection, storage and processing of vast quantities of information -- is another fast-growing sector. Jacques Bughin, a Brussels-based Director at McKinsey & Company, observed big data could increase global GDP by up to 0.6% annually.

Nonetheless, he said, “most companies don’t realize the value of data; only one in 10 knows how to use data.” His research shows that companies that do make strategic use of big data “grow twice as fast and have higher productivity” than others.

Another constraint on the growth of big data is lack of skilled labor, which Bughin called the most important “digital divide” we face. McKinsey forecasts the United States will create a demand for 150,000 data analytic jobs and says firms will need 1.5 million data-savvy managers in coming years.ⁱⁱ

Europe also is getting a big economic boost from digital commerce. Roberto Masiero, President of Think! an innovation-oriented think tank in Milan, estimated the Internet economy added almost €500 billion to Eurozone growth in 2010, equivalent to 4.1% of Europe’s GDP. Online commerce there is growing annually at a rate of 7 percent.

It’s not just the Googles, Apples and Microsofts that benefit from data-driven growth. Anthony House, London-based Manager of Public Policy Strategy at Google, said 75% of small and medium companies report that Internet sales are their biggest source of growth.ⁱⁱⁱ Moreover, we are just beginning to see the benefits of applying the Internet’s efficiencies to other areas, he said. Better use of data can help improve the delivery of public services; raise the quality of public education; optimize the use of existing energy infrastructure through real-time pricing; and give people access to transportation data so they can avoid congestion. According to McKinsey’s big data study, said Bughin, European public administrators could save €250 billion annually by harnessing the value of big data, through increased transparency and reduced processing times.

So why aren’t policymakers celebrating data-driven growth and doing everything possible to facilitate more of it? A big problem, Mandel said, is that governments don’t yet know how to define and measure the value of data. They typically put economic activity into one of two baskets – goods or services. But data is neither good nor service, although it has properties of both. And since many data products are free, or obtained at a set access price – email, apps, social media – actual data usage is not being captured in official statistics. It is time, Mandel said, for new measures that treat data as its own economic category. Otherwise, outdated government metrics will routinely understate the value of data in generating productivity gains and growth.

In a paper prepared for the conference, Mandel estimated that, after adjusting government figures to correct for flawed measurement, data-driven consumption added an additional half a percentage point to U.S. GDP growth in the first half of 2012.^{iv} Such consumption covers things like digital navigation and maps, online movies and TV, search functions, social media, email, and games.

Participants agreed that data-driven innovation can generate lots of new jobs that the United States and Europe urgently need to bring down stubbornly high unemployment rates.^v And it can save taxpayers’ money by helping governments become more user friendly and efficient at delivering public services.

Realizing this potential, however, requires a supportive public policy framework that removes obstacles to data-driven innovation. Such a framework must begin with the basics: Governments must learn how to measure digital commerce accurately to assess its true contribution to growth. And policymakers should revisit old policy and regulatory frameworks that inhibit, rather than enable, innovation and growth.

THE ECONOMIC IMPACT OF PRIVACY REGULATION

The conversation moved next to the sensitive question of privacy regulation and its impact on data-driven growth. At issue is the EU General Data Protection Regulation, an update of its 1995 Data Protection Directive. The new rule, intended to give individuals more control over how companies use their personal information, is being drafted now by the European Commission and is slated to take effect by 2015.

Few doubt that creating a “Single Digital Market” under one set of rules is preferable to forcing companies to run the gauntlet of 27 sets of national privacy regulations. But leading American technology and Internet companies worry that the EU’s restrictive views on privacy, which it regards as a “fundamental human right,” could inhibit the rapid growth of big data analysis, stymie the development of the cloud and disadvantage U.S. firms accustomed to working under more permissive rules.

Specifically, the new rules would apply not only to data transactions in Europe, but also to data transferred outside the EU and to data passed on to third party collectors. This reflects the “right to be forgotten” principle, under which “data subjects should have the right that their personal data be erased and no longer processed.” U.S. companies worry that they would be held responsible for how data originating with them is used by third party collectors. That could significantly affect how much business these companies are willing and able to conduct in the European market. Large companies, or companies whose core operations consist of processing data, would also be required to hire a “data protection officer” to comply with mandates from Brussels.

For their part, European regulators view America’s approach to privacy – including the “Privacy Bill of Rights” unveiled with great fanfare by the Obama administration in February, as weak and fatally dependent on business “self-regulation.” EU Justice Minister Vivian Redding warned early this year that the U.S. approach would “not be sufficient” to protect the flow of personal data between Europe and America.

Because data-driven activities are so new and dynamic, it’s hard to set hard and fast rules on what the appropriate level of data protection is for consumers. What’s more, personal data is, in effect, the price we pay for access to the ostensibly “free” services the Internet offers, such as using Google’s powerful search engine or setting up a Facebook page. Often personal information is used to tailor your Internet experiences to make product matching more efficient, as when Amazon proposes products it thinks are similar to those you’ve already bought. As Megan Richards, director of the European Commission’s DG Connect agency, told conference participants, “You have to give and take – you can’t get a free service and not give something up.”

On the other hand, it’s often not clear to consumers exactly what they are giving up, and to whom. They don’t know, for example, if their data is being sold to third parties for unsolicited marketing purposes. And in the absence of consensus on how to deal with data privacy, European regulators are taking a hardline approach. In the last two months alone European regulators have had run-ins with Facebook over their facial recognition software and with Google over its transparency of how they use individual data.

Daniele Pica, a member of Privacy International and a John Cabot professor, strongly objected to what he called the routine “commodification of privacy” by companies. In such transactions, he said, consumers don’t know how their information is used, nor are they compensated adequately for it. “Pay me real money” should be their attitude, he added.

Obtaining explicit consumer consent every time a company uses or transfers personal data is impractical, several participants said. Pat Walshe, Director of Privacy at the London-based GSM Association, maintained that few consumers want to read a long legal document electronically, especially on a small mobile device. They expect to be whisked quickly to their information they seek. “I don’t want to be protected, I want to be empowered,” he declared.

Luca Bolognini, President of the Italian Institute for Privacy, pointed out that, even when consumers’ sign a consent form, their privacy rights are not clearly defined. That might not prevent, for example, a company from selling personal information to a third party data collector for unsolicited advertising or marketing purposes. A practical remedy could be requiring third parties to be formally certified by an independent party specializing in privacy certifications. As Bolognini explained, a formal certification makes the process more credible to consumers, and can help consumers feel comfortable about releasing personal information even if they haven’t signed an explicit consent. He also suggested that online companies might need to adopt a new business model in which some services are no longer seen as free. “Users will pay with their data for marketing purposes in a contractual agreement.”

Several participants stressed the need for policymakers to assess the costs of proposed regulations as well as their intended benefits. Walshe cited research that estimates companies will spend \$30.5 billion this year to comply with Canadian privacy regulations; comparable figures for Europe and the United States aren't available.

Richards suggested requiring a "Privacy Impact Assessment" for each new privacy regulation. She also said that a single, consistently applied rule may be a better approach than an overly broad data protection directive that gives individual European countries wide leeway in deciding where to draw the lines. It's worth noting that there is disagreement on how to regulate privacy even within the European Commission, as DG Connect officials, who are not charged with data protection, take a less restrictive view than their colleagues at DG Justice.

Ed Black, President of the Washington-based Computer & Communications Industry Association, emphasized that the economic stakes for Europe of striking the right balance on privacy are high. Cloud computing, for example, could provide a €600 billion boost to European GDP. And small-to-medium sized enterprises stand to benefit the most from cloud computing because they can least afford a large data storage capacity. "Non-internet companies will benefit enormously," he said.

Yet attempts to impose highly prescriptive regulations on fast-moving markets, he warned, could cause Europe to fall behind in data-drive innovation, and erect new barriers to cross-border data trade. Uncertainty about the EU's intentions already is impeding digital growth in Europe. Nonetheless, "policymakers (in Brussels) are committed to preserving their power and they feel threatened by data," Black said.

PROTECTING THE OPEN INTERNET

Dimitrios Droutsas, a Member of European Parliament and former Greek Foreign Minister, stoutly defended the EU's determination to defend privacy rights even at the expense of innovation and growth. He stressed two important political realities. First, pressure for a new data protection rule is coming from the European public, not bureaucrats in Brussels. He cited a poll showing 80 percent of Germans are concerned about privacy violations. Second, defining a uniform data protection standard is difficult and takes time, given that the European Parliament has more than 700 members representing 27 countries, all with different attitudes and approaches to data protection.

But Chris Kelly, founder of California-based Kelly Investments and former Chief Privacy Officer at Facebook, pointed out that the European Union also has a directive that supports the free flow of information. Protecting consumers' data and promoting data-driven innovation should not be regarded as mutually exclusive, he said. And while dueling privacy paradigms could prove to be a major bone of contention between Europe and America, Kelly noted that broader challenges to digital commerce are arising from attempts by authoritarian and developing countries to regulate the Internet.

Their demands are expected to take center stage at December's WCIT meeting in Doha. Its purpose is to revise the International Telecommunications Regulations, a 1988 treaty governing telephone (voice) communications across international borders. There are two big issues on the table. One is whether governments should be able to control the Internet within their borders. The other is whether to give the International Telecommunications Union (ITU) the power to impose rules written for voice networks to the Internet.

Both ideas pose a fundamental challenge to the Internet's decentralized governance model. What is striking about the Internet is that no one is in charge. It is a network of networks joined together with the aid of private, nonprofit groups that develop common standards and operating protocols. As such, it has grown with breathtaking speed with little help or interference from governments (though of course the U.S. Defense Department developed the prototype for the Internet).

Nonetheless, Russia, China and other countries are challenging the informal, multistakeholder approach to governance that has allowed the Internet to flourish. They claim that these private arrangements may have the appearance of neutrality but actually give the United States and its leading technology firms disproportionate control over the Internet. Russian leader Vladimir Putin, for example, has hailed the WCIT as an opportunity to establish “international control over the Internet using the monitoring and supervisory capabilities of the ITU.”

Richards said the United States and Europe should work to keep the ITU deliberations at a “very high level” and oppose any new rules on Internet governance.

Michael Kende, Geneva-based Co-Head of the Regulation Sector at Analysys Mason, highlighted efforts by developing countries to impose the old voice communications rules on the Internet’s digital space. Settlement charges, or termination fees imposed by a domestic carrier for ending an incoming international transmission, date back to the days when phone companies were largely owned and regulated by national authorities. As revenue streams from traditional voice communications dry up, the fear is that the ITU will impose such “settlement fees” on digital communication by way of compensation.

Kende pointed out that it may be easy for companies to avoid such charges by creating fake traffic to reduce per unit costs, making the fee ineffective. In addition, he estimates that 98% of the Internet is portable, making the ability to accurately track Internet use almost impossible.

Imposing such fees would also give governments more control over matters now settled through private contracts between the parties involved. According to Kende there are currently 142,000 pricing agreements between digital carriers, few on paper. Regulating settlement fees – forcing legally documented contracts – could intrude on the natural, dynamic course of expanding internet access worldwide that has been working very well.

Carolyn Nguyen, Seattle-based Director of Technology Policy at Microsoft, pointed out that imposing a fee could harm developing countries by “fragmenting the Internet.” She stressed the social benefits the Internet provides, such as “connecting socially marginalized people” or helping to prevent contagious diseases. She cited the example of the Global Health Intelligence Network, which mines data to glean early warning signs of pandemics. Imposing too many regulations and costs on the Internet could turn the World Wide Web into the “Walled Wide Web,” she warned. “The value of data is only as good as the flow.”

CORPORATE RESPONSIBILITY AND “DATA STEWARDSHIP”

Formal government regulation is not the only way to protect consumers’ data and privacy as they communicate, shop, play games and conduct business online. The conference closed with a spirited discussion of what companies – particularly those on the front lines of data-driven innovation – should do to keep faith with their customers. A theme that threaded through all conference discussions was that trust is paramount – consumers must be able to trust that companies use their data only in ways they intend. As Nguyen observed, it’s difficult to “mandate trust” through regulation.

Laura Fennell, General Counsel of California-based Intuit, described how the tax and business software pioneer has built trust into its core business model. The starting point, she said, is recognizing that companies don’t own their customers’ personal data. Instead, they must act as stewards of that data and use it only to the benefit of their customers.

That becomes even more important as that data moves from their personal computers into the cloud. In what undoubtedly must seem like a challenge to aggressive data-miners, Fennell maintained that companies should use the insights they gain into their customers’ behavior to improve their lives rather than to “monetize personal data.” Of course, customers often expect companies like hers to come up with new “dynamic, data-driven solutions” to their problems, like navigating America’s insanely complex tax code or coping with the myriad of regulations that encumber small businesses.

Such innovation requires lots of experimenting, and there will be failures along the way. Companies must learn to “manage trust in a world of failures.” But if firms first work to establish a bond of trust with their customers by practicing “ethical data stewardship,” profits will follow, she said.

Unlike companies, Fennell noted, regulators are more focused on protecting customers’ privacy than improving their lives through new labor-saving and productivity-enhancing software. That’s why it’s important for “regulators to sit down with innovators” to find the right balance between new products and data protection.

Business codes of conduct can be another powerful tool for building the trust that is integral to well-functioning markets, said Maurice Fitzgerald, Geneva-based Vice President of Strategic Initiatives – Autonomy/IM at Hewlett-Packard. His company analyzes large volumes of data in all formats in 150 languages. The efficiency gains from crunching big data can be striking. Fitzgerald cited the example of law firms that are using computer algorithms rather than low-paid associates to sift through thousands of documents in the discovery process. It would be enormously cumbersome and costly to get explicit approval from each individual whose personal information was included in such a data base. That’s why companies need internal rules to guide them in extracting value from big data without violating peoples’ privacy.

Codes of conduct may obviate the need for truly intrusive regulation, said Fitzgerald, but they can never offer a total solution. Combing through big data can present some difficult ethical dilemmas. Is it ever right to violate someone’s privacy (say, by revealing that he or she has a communicable disease) to prevent harm to others? Or to reveal possible evidence of a criminal act? “What crimes are we allowed to commit? Context is everything,” Fitzgerald said. As private entities, companies can’t make such judgments by themselves. They need the backstop of formal regulation to act as the ultimate judge in such situations.

University of Florence law professor Giuseppe Conte argued that whatever the final balance is, it should be one that combines what he calls “soft regulation” – such as codes of conduct – with “hard regulation” like laws or government regulations. Codes of conduct defeat their purpose if there is no way to mandate compliance or enforcement. But laws are often territorial, and can be unenforceable outside of the national authority. That’s why hard laws should provide the basic framework, and then softer rules can fill in the gaps. We must leave room for actual experience to evolve answers to such questions, he added.

CONCLUSIONS AND TAKEAWAYS

Throughout the Cold War, collective security dominated the transatlantic dialogue. In the 21st century, Marshall said, collective prosperity should take center stage. Both Americans and Europeans face the challenge of upholding their standard of living in a more fiercely competitive global economy. If they fail, they won’t be able to fulfill meet their own citizens’ aspirations, and they will discredit the liberal democratic model.

Working together to protect the environment for economic innovation is key. The Rome conference sought to advance that goal by highlighting the underappreciated impact of data-driven innovation on jobs and growth. While no firm consensus formed over two days of talk in Rome, there was broad agreement on the following points:

- Preserving the Internet’s open and decentralized architecture is essential to data-driven innovation.
- The success of the data-driven economy depends on policymakers striking the right balance between promoting innovation and protecting consumer rights.
- Companies must earn trust by acting as ethical stewards of their customers’ personal information.
- Business codes of conduct, backstopped by formal regulation, can help companies extract economic value from data while sustaining customer trust.
- While data protection is important, data protectionism must not be allowed to impede the growing volume of cross-border data trade, which is spreading the benefits of the digital revolution far and wide.

POSTSCRIPT

Following the conference, PPI sent representatives to Brussels to brief European officials and parliamentarians, think tanks and other thought leaders on the discussions in Rome. They found a strong appetite for learning more about data's contribution to economic growth, including the measurement questions Mandel has raised. As a result, PPI is planning to continue the conversation in future events in Brussels.

ENDNOTES

i “Where the Jobs Are: The App Economy Jobs,” Technet, February 2012: <http://www.technet.org/wp-content/uploads/2012/02/TechNet-App-Economy-Jobs-Study.pdf>.

ii “Big Data: The next frontier for innovation, competition, and productivity,” McKinsey & Company, May 2011: http://www.mckinsey.com/insights/mgi/research/technology_and_innovation/big_data_the_next_frontier_for_innovation

iii “Embracing an Innovation Stimulus Package,” Google, July 2012: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2104350.

iv “Beyond Goods and Services: The Unmeasured Rise of the Data-Driven Economy,” Progressive Policy Institute, October 2012: http://www.progressivepolicy.org/wp-content/uploads/2012/10/10.2012-Mandel_Beyond-Goods-and-Services_The-Unmeasured-Rise-of-the-Data-Driven-Economy.pdf.

v See also “The Geography of the App Economy,” CTIA, September 2012: http://files.ctia.org/pdf/The_Geography_of_the_App_Economy.pdf.