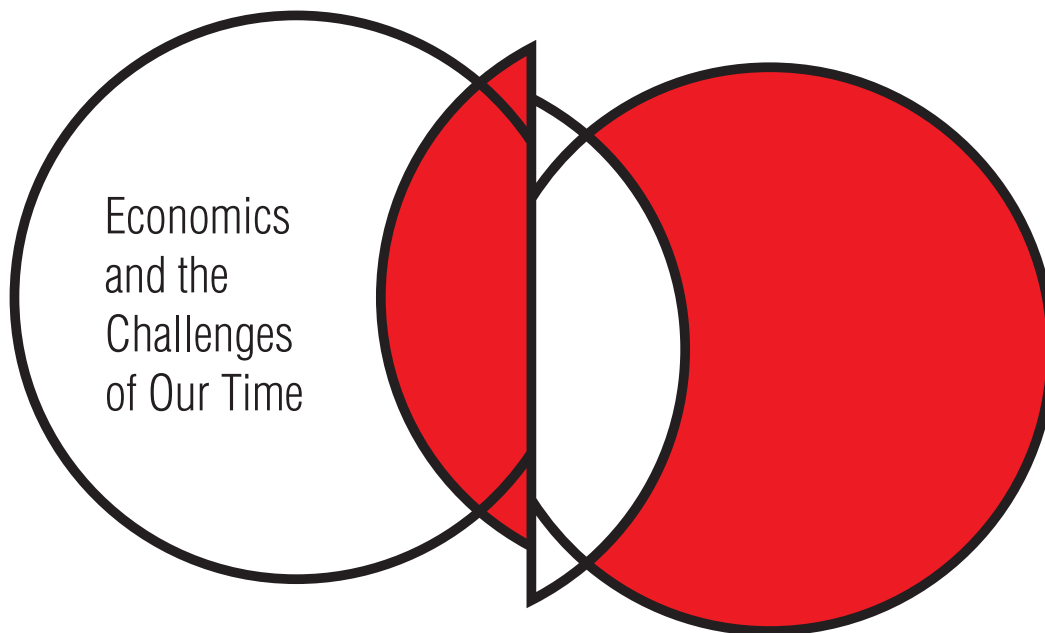


FALSE DICHOTOMIES



WATERLOO, ONTARIO
NOVEMBER 16-17, 2012



Institute for
New Economic Thinking

CONFERENCE REPORT

**FALSE DICHOTOMIES:
ECONOMICS AND THE CHALLENGES OF OUR TIME**

NOVEMBER 16-17, 2012

WATERLOO, ONTARIO

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New Economic Thinking

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KEY POINTS

Macroeconomic Theory and Modelling after “The Fall”

- The real financial dichotomy in economics remains one of the most damaging, as the global financial crisis (GFC) laid bare. The financial system is not simply a “veil” over the real economy; it has a very real life of its own. Integrating the real and financial economies is one of the most overwhelming challenges facing macroeconomics.
- The existence of complex systems, populated by actors with various preferences, requires a more creative and flexible methodological approach; however, the problem of aggregation remains just as daunting as ever.
- The role that fundamental uncertainty plays in the economy remains poorly understood and has been neglected by the study and profession of economics.
- Stock-flow consistent (SFC) models and agent-based models (ABMs) are promising new developments, but both model classes have significant weaknesses. A synthesis of the two could yield critical new insights into microeconomic behaviour and macrofinancial outcomes.

Social Equity and Macroeconomic Performance

- The conference highlighted the complex dynamics between economic development and globalization, spatial and temporal patterns in inequality, and the age-old dichotomy in economics of efficiency and equity. Conference participants took the opportunity to assess whether the dominant position of particular dichotomies in economics may be blocking critically important theoretical breakthroughs.
- The role and extent of rent extraction in the world economy continues to be poorly understood. The rapid growth of the global financial services industry, the peaking of the recent commodities super-cycle, and the re-entry of China and other labour-rich, emerging-market economies into the global economy may be contributing to the generation of significant rent-seeking.

- Previous theoretical approaches in macroeconomics, which largely ignored any potential relationship between income inequality and macroeconomic resiliency and financial stability, should be reassessed.
- The efficacy of current counter-cyclical macroeconomic policies needs to be reassessed against the disjunction between output and asset-price valuation stabilization and employment stabilization.

Financial Complexity, Instability and Macroeconomic Management

- The rise of shadow banking has transformed the modern financial landscape. Financial regulators and monetary officials would be wise to adapt to the exigencies of this “brave new world” of market-based credit systems. There is a complex and poorly understood relationship between financial regulatory policies (such as Dodd-Frank and Basel III) and monetary conditions in the broader economy.
- The money-credit dichotomy continues to impede proper theorizing of financial and monetary systems.
- No clear relationship exists between price stability and financial stability, which necessitates a rethinking of orthodox monetary policy regimes, particularly inflation targeting. Macroprudential policies hold great potential, but their interactions with traditional monetary policy raise important governance questions and potential trade-offs between competing goals.
- The tremendous deleveraging of the private sector in core advanced economies continues to complicate macroeconomic policy. The example of Japan holds important policy lessons — some of which may challenge basic microeconomic assumptions.
- There are important similarities between the role of manufacturing in the current global economy and the centrality of agriculture in the decades leading up to the Great Depression. Governments’ attempts to save their manufacturing sectors may be impeding a strong, sustainable and balanced global recovery.

History, Finance and the Law

- Politics and power permeate almost every corner of economic life, yet economists struggle to incorporate this fact into their work. A greater willingness to engage with other social sciences, such as history, the law and political economy is warranted. This would represent a return of the profession to its historical roots.
- Fundamental uncertainty and the presence of binding liquidity constraints generate instability in financial markets. The law must be flexible to prevent financial collapse; however, where law is flexible, power becomes salient.
- Finance is inherently hybrid in nature. Its public and private components are at all times interdependent.
- Uncertainty versus risk and knowledge versus information are two important dichotomies that should inform the conceptualization and regulation of financial markets.
- The state is both within and outside markets, regulating and participating where deemed necessary. This is reflected in the changing nature of government immersion in economic life.

CONFERENCE REPORT

Rapporteur Kevin English

INTRODUCTION

While economics, as a body of research, has provided significant benefits, as a profession, it has failed to provide solutions to many of our greatest and most pressing challenges. Many argue that economics has become detached from broader society — that it has become far too rigid and insular. Analytical distinctions are necessary for theoretical advances, providing tractability and imposing discipline, but when they begin to shape economists' views of the world, rather than help them respond to it, it is right to ask if these distinctions have lost their usefulness, an inquiry that can itself be a source of intellectual progress.

At the False Dichotomies: Economics and the Challenges of Our Time conference, held in Waterloo, Ontario, on November 16 and 17, 2012, The Centre for International Governance Innovation (CIGI) and the Institute for New Economic Thinking (INET) trained the spotlight on some of the lines that have been drawn by economists — between macro and micro, between commercial lending and capital markets, and between efficiency and equality.¹ Similarly, the dividing lines between economics and other areas of study, such as history, the law, psychology and political economy were also questioned. When economic theories are unable to answer intrinsically important questions, such as those related to the stability of the financial system, the distribution of wealth and income, or the relationship between the environment and social welfare, the question arises whether the lines drawn within economics are the right ones. For example, basic assumptions about human behaviour divide economics from psychology, yet both fields could arguably enrich their research through interdisciplinary engagement. Likewise, boundaries divide macroeconomics from financial economics, yet these boundaries may not be analytically relevant in all cases. The distinctions are not only intellectual, but also sociological: macroeconomists and microeconomists often carry on separate conversations, reinforcing the division between them. To the economic community, these constraints are in fact very real: they condition the work that economists do, the jobs they can get and the journals that will publish their work.

Training the spotlight on such issues can be a source of intellectual discomfort, but if done well, it can also

¹ To access videos of the conference proceedings, please visit: www.cigionline.org/video-series/false-dichotomies.

be a productive way to challenge the discipline. The conference sessions created conversations about and across the normal boundaries of the economics field, to ask why those lines exist, what advances they permit, and, potentially, what avenues they close off.

MACROECONOMIC THEORY AND MODELLING AFTER “THE FALL”

Macrofinancial Linkages, Microfoundations and the Challenges of Aggregation

One of the conference’s overarching themes was the strong conviction of all participants that mainstream economics has failed to take macrofinancial linkages seriously. This is reflective of what is, perhaps, the largest and most damaging false dichotomy of them all: the “real” economy versus the financial economy. During the first plenary session, Christopher Ragan, associate professor of economics at McGill University, underscored this important theme, noting that “[i]t is very hard to read any history of financial crises and think about a separation between financial and real economies”; in Ragan’s own words, pretending otherwise is “laughable.” In the post-GFC world, it is hard to understand the conspicuous absence of an explicit financial sector and balance sheets in mainstream modelling. Perhaps this speaks to deeper sociological divides within economics. For example, before the GFC, monetary stability and financial stability were often treated as separate issues. This divide was mirrored, and arguably sociologically reinforced, by the division of responsibilities between supervisory financial authorities and central banks.

The key challenge is bringing finance back into macroeconomics. A related issue, and one that has emerged as one of the most divisive legacies of the financial crisis for the economics profession, is the issue of microfoundations and the problem of aggregation. When critics claim that “economists often carry on separate conversations,” this is the heart of what they are alluding to. The intensity of debate between academic heavyweights over this particular issue in the “blogosphere” speaks to how divided the profession remains. Conference participants made no pretense to having the definitive solutions to reconciling this divide or to possessing definitive answers to these debates.

Participants were, however, largely unified in their conviction that the excessive reliance on strong, microfounded modelling (or, put differently, on a single version of microfoundations), has led the profession astray. John Smithin, professor of economics at York University, argued that the intellectual deference granted to microeconomics within the broader profession has served as a significant impediment to

our understanding of macroeconomic systems. Alluding to a new book by John E. King, Smithin referred to this as the “microfoundations delusion.”² Smithin and King take issue with the overwhelming reliance placed on representative agents with rational expectations and the dynamic stochastic general equilibrium (DSGE) framework in the profession. The delusion, they argue, rests on the false premise that the macroeconomic effects of aggregated behaviour can only be deduced by understanding the motives of individual actors.

An individual household’s optimal financial behaviour — for example, increasing savings during periods of economic uncertainty — is not always optimal when aggregated to the entire macroeconomy. This coordination failure, where optimal coordination does not occur through the traditional price mechanism, is known as the “paradox of thrift.” Another crucial coordination failure, as the GFC demonstrated, occurs during a downward liquidity spiral. Under certain situations, more ad hoc models, such as John Hicks’ IS/LM model (Investment-Savings / Liquidity preference-Money supply) may actually prove more useful, though such a methodological approach does not imply that a complete theory of macroeconomics can do without pivotal components such as a pricing theory, cost theory, theory of value or theory of the firm. As Smithin argues, the crucial question is whether traditional “textbook” microeconomics provides an adequate treatment of these issues, and, more broadly, to what extent can it really be viewed as “foundational.”³

Criticism, however, is far easier than constructive engagement. Mainstream pre-crisis models were marked by a high degree of internal consistency, based on strong microeconomic foundations and analytically tractable — all things that economists aspire to in their modelling. Conference participants took great lengths to highlight the atomistic nature of these microfoundations as a source of potential weakness. For example, do invariant preferences and fully rational expectations constitute satisfactory modelling devices when the world is clearly characterized by instability and fundamental uncertainty? Similarly, how can the tension between rigorous microfoundations be reconciled with the development of models that are capable of replicating the chaotic macrofinancial world of economic life? Throughout the conference, participants attempted to meet these challenges by presenting new methods

² See King, 2012.

³ The information in this paragraph borrows largely from Smithin’s conference lecture slides, available at: www.cigionline.org/sites/default/files/shared/Plenary%20Session%202-John%20Smithin.pdf.

and frameworks to modelling different aspects of macrofinancial outcomes and microeconomic behaviour.

ABM, Computational and SFC Modelling

One of the major promising developments in current economic research is the ABM.⁴ Conference participants Blake LeBaron, professor at Brandeis University, and Cars Hommes, professor at the University of Amsterdam, emphasized the various strengths of ABMs. Hommes presented his research, which aims to generate ABMs with strong behavioural foundations, using experimental techniques and data generation to validate simple heuristic switching-based model simulations. His research allows for heterogeneous expectations to endogenously develop, as actors observe how price and profit conditions progress and respond by switching between simple heuristic forecasting strategies. When aggregating from “micromotives” to “macrobehaviour,”⁵ the type of feedback assumed by the modeller is critical. This is similar to LeBaron’s model, where trend-following heuristics (or “momentum traders” in finance jargon) do very well when positive feedback is introduced, and are able to crowd out other stabilizing heuristics, leading to unstable asset bubbles. Above all, such an approach allows for a partial resolution of the traditional empirical micro/macro dichotomy through the calibration and estimation of micro decisions and macro aggregates at the same time.

There are significant trade-offs with moving beyond traditional general equilibrium models. Dawn Parker, associate professor at the University of Waterloo, argued that when economists move to analytically intractable models, the ability to comprehensively and completely explain the relationship between parameter space and the model output is lost. As a result, the assumption of fully rational expectations also has to be relaxed, as agents’ expectation-formation mechanisms can no longer

anticipate final outcomes. As Parker noted, this is “a very deep and unacceptable loss for many economists.”

Accepting some degree of bounded rationality, however, may also be appropriate when analyzing economic events such as the GFC. As Perry Mehrling, professor of economics at Barnard College and director of educational initiatives at INET, states, “Neither markets, nor the state, whether separately or in cooperation, can ever be expected to defeat the dark forces of time and ignorance...Fundamental uncertainty is a fundamental fact of our economic life, and abstraction from that fundamental fact is the major problem” (Mehrling, 2012). For several of the great early twentieth-century economic theorists, such as Keynes, Knight, Hayek and Wittgenstein, this aspect of human life was central to understanding economic systems, because in the face of fundamental uncertainty, actors resort to simple rules of thumb. On this point, participants reflected on the need for economics to accept messiness and complexity, and in doing so, to embrace a broader set of methodologies — whether computational, traditionally analytic and econometric, or experimental in structure — that might better model the heterogeneity of human experience. Doing so might help those in the profession see different methodologies as complements, rather than substitutes. As Antoine Mandel, associate professor of applied mathematics at Université Paris 1 observed, we should not view agent-based and general equilibrium models (or other such dichotomies) as corner solutions.

Many participants also expressed a strong interest in generating methodological strategies for integrating ABM with SFC modelling. SFC models and other accounting-based models fared remarkably well in predicting the timing and scope of the subprime crisis in the United States (Bezemer, 2009). The strength of the SFC approach is that it applies discipline to the temporal movement of financial and monetary aggregates, and seamlessly incorporates interactions between the real and financial economies. Models of this nature, however, lack any underlying behavioural assumptions for individual agents; this is where ABM and other computational methods can serve as natural complements. The ABM approach provides flexible and more realistic behavioural rules for economic agents, but they are neither overly useful for analyzing macrofinancial linkages, nor do they possess any means of applying macroconstraints to aggregate economic outcomes. Conference participants expressed great optimism that a new synthesis of these two methodological approaches could emerge over the next decade.

4 The ABM’s strength is its ability to incorporate heterogeneous behavioural rules (and variant preferences) and to mimic learning between different agents (including “herding”), an important feature for modelling financial markets. While ABMs share the DSGE models’ strength of being based on microfoundations, they allow this bottom-up component of the model structure to be given full play, without assuming any medium-term market equilibrating structure. As such, ABMs are characterized by multiple unstable “disequilibria” that are prone to the severe booms and busts and periods of low and high volatility that so clearly exist within credit networks and financial markets.

5 The allusion, here, is to Thomas C. Schelling’s foundational text, *Micromotives and Macrobehaviour*, rev. ed. (New York: W. W. Norton, [1978] 2006).

SOCIAL EQUITY AND MACROECONOMIC PERFORMANCE

For a variety of reasons, economists have struggled to engage with the topic of inequality — often appearing unapologetic about its messy relationship with economic growth. The conference highlighted the complex dynamics that relate economic development and globalization to spatial and temporal patterns in inequality, and the age-old dichotomy in economics of efficiency and equity.

A common refrain in business and economic circles is that “China makes and the world takes.” But why is this so, and how could this dynamic be affecting global income and wealth distributions? Sanjay Reddy, associate professor of economics at The New School for Social Research, argued that one overlooked variable explaining recent trends in income and wealth distributions is the “Lewisian” character of the global labour supply curve.⁶ The high elasticity of this curve has allowed for a massive movement of labour out of pre-industrial sectors into modern (largely manufacturing) sectors without wages having to rise at anything approaching the rate of labour productivity growth. The result is a profit boom for households that derive a large portion of their income from returns to capital, both in the developing and developed worlds.

These insights were reflected by numerous discussions at the conference over the declining return to labour (as a percentage of GDP) in the developed world, despite decent productivity growth over the past decades. Conference participants discussed the popular skill-biased technological change theory within this context; however, a common alternative intellectual thread was the possibility of increasing rent extraction in the global economy. The breakout session on global inequality addressed the possibility that “threat effects” are being used increasingly in the hyper-globalized economy to extract rents from workers. These threats do not need to be based in sound microeconomic analysis; the threat only needs to be perceived as credible by the workers. In such an environment, information asymmetries between workers and employers (as capital owners’ agents) could be used to easily arrive at a wage income-capital income split that is not justified by underlying fundamentals. Hence, a threat that is based on claims of microeconomic efficiency actually produces outcomes that are neither economically efficient, nor socially equitable.

Over the past two decades, claims to efficiency have also characterized policy debates over financial regulation. Unfortunately, the GFC laid bare the potential for rent-

seeking from large financial institutions to destabilize financial markets. Anton Korinek, assistant professor of economics at the University of Maryland, pointed to the existence of relatively large “scarcity rents” and “bail-out rents” in modern financial systems. These rents can occur because financial institutions serve as a bottleneck for all credit intermediation and because ownership of such institutions is highly concentrated. Bankers, who gain on the upside, prefer more risk-taking and lighter financial regulation, while workers fear fluctuations in bank capital and have more to lose on the downside. According to Korinek’s research, “From the perspective of workers, financial regulation to limit risk-taking in the banking sector is a substitute for missing insurance markets,” which could otherwise compensate workers for the pecuniary externality they are exposed to from the risk-preferences of bankers (Korinek and Kreamer, 2012).

The intersection between growing income inequality and financial instability also featured prominently during the conference. A fairly robust correlation has been drawn between the rise of income inequality and the rapid growth in household debt in developed economies over the past three decades. Barry Cynamon, visiting scholar at the Federal Reserve Bank of St. Louis, noted that despite stagnant income growth during this time, the American consumer demonstrated a remarkable ability to drive economic recoveries through strong rebounds in consumption growth. Theoretically, however, one would expect that because wealthier households have lower marginal propensities to consume, a rise in income inequality would reduce overall consumer demand and, over time, place a significant drag on growth. Instead, the relative demand growth of the bottom 95 percent of households actually rose steadily in the decade leading up to the GFC, while the relative demand of the top five percent of households fell. With the benefit of historical hindsight, it appears the paradox is driven by rising access to consumer finance for lower income-households — itself facilitated by the rise of shadow banking — and the wealth effects created from skyrocketing housing prices. However, as Cynamon and Steven Fazzari, professor of economics at Washington University, argue in an earlier paper (2008), there is something unconvincing — or at the very least, not fully satisfying — about the neoclassical theories of life-cycle consumption smoothing that have been put forward to

⁶ See the work of Nobel laureate Arthur Lewis.

provide the microfoundations of these macro trends.⁷ It seems, *prima facie*, strange to postulate that despite continually having expectations of future income growth proven wrong, households would continue to believe that the “good times” are just around the corner.

Cynamon was not alone in drawing the link between macroeconomic trends and the growth in inequality and household debt. Many participants agreed that with so much income trapped within groups with a lower marginal propensity to consume, the macroeconomy may have become far less resilient to negative shocks. For example, on the eve of the GFC, some estimates of the demand loss needed to restore benchmark savings rates for the bottom 95 percent of US households exceed a massive eight percent of GDP (up from only around one percent in the early 1990s). The inevitable household deleveraging that has finally occurred remains one of the major drags on the current recovery.

Pavlina Tcherneva, assistant professor of economics at Bard College, reflected on both the secular decline in income gains accruing to the bottom 90 percentile of workers during economic expansions and the slower recovery in payrolls following recessions. Tcherneva suggested this may have been influenced by the different tools used for economic stabilization during these two periods, noting the greater role given to monetary policy and associated fiscal interventions aimed at stabilizing financial markets, such as the US Troubled Asset Relief Program, which is largely a top-down stabilization strategy. Such strategies do stabilize output, but the mechanism through which this occurs — improving bank balance sheets and generating wealth effects through higher asset prices — tends to disproportionately favour higher income groups. The result is that relatively little support is provided to stabilize the earned incomes of low- and medium-skilled components of the labour force. An alternative bottom-up approach would attempt to place a floor under the labour market, similar to the way that a liquidity put acts to place a floor below asset valuations and a ceiling above credit spreads.

⁷ The two researchers instead argue that financial innovation “allowed consumers to borrow more in response to a wide variety of social cues...In a world of uncertainty, this kind of borrowing did not necessarily correspond to a careful plan for repayment consistent with forward-looking intertemporal budget constraints” (Cynamon and Fazzari, 2008). Hence, social institutions could potentially influence the utility functions of economic actors — an argument that other branches of the social sciences have long made.

FINANCIAL COMPLEXITY, INSTABILITY AND MACROECONOMIC MANAGEMENT

Lifting the Veil: A Brave New (Financial) World

One of the enduring legacies of the GFC is the question of how to conceptualize, understand and (potentially) regulate the so-called shadow banking system. Public outrage over the perceived recklessness of the financial sector has created an atmosphere of animosity among many regulators and politicians toward financial innovation. The rise of shadow banking has also blurred the traditional distinction between commercial lending and capital markets, which poses profound questions about how modern finance should be regulated in a socially optimal way and, by extension, represents a potential paradigm shift in monetary economics and practice.

What makes shadow banking unique is the absence of bank deposits, the nature of the credit transformation process (i.e., securitization) that generates deposit alternatives, the long chains of financial vehicles that underpin various transformation processes (liquidity, maturity and credit) and the role that collateral plays throughout the entire process. This latter aspect is crucial for understanding the demand for safe money-like assets in our modern financial system. Similarly, the immense liquidity needs of the global economy explain the growing importance of repurchase agreements and asset-backed commercial papers, which has made safe liquid collateral the “life blood of the modern economy,” as James Sweeney, managing director of Credit Suisse Group’s global strategy team highlighted (Credit Suisse, 2012).⁸ Simply put, the rise of large institutional cash pools has generated immense demand for safe money-like instruments — or “private money” (Poszar, 2011). That the US financial sector — perhaps the most innovative and sophisticated in the world and supported by the sole genuine reserve currency — was the source meeting the global economy’s demand for both short- and long-term safe assets is hardly surprising. From this perspective, the rise of shadow banking is also intrinsically linked to financial globalization and developments in the broader international monetary system.

Understanding the rise of shadow banking from a demand-side perspective has important implications

⁸ The dichotomy between money and credit is rather new. For several late nineteenth- and early twentieth-century economic theorists, such as Joseph Schumpeter and Friedrich Hayek, the money-like nature of credit was demonstrated repeatedly during the boom-bust credit cycles characterizing the classical gold standard era. See, for example, Hayek, Lecture 4, Section 5, *Prices and Production* (1931).

for both future regulation and monetary policy. As the GFC demonstrated, private forms of money ultimately rest upon their convertibility into state-issued public money. With private and public forms of safe collateral playing such an important monetary function in our new financial system, conference participants agreed that the conceptualization and measurement of monetary aggregates used to inform monetary policy also need to shift. An environment characterized by a limited supply and reduced velocity of private forms of money⁹ — like the present situation — is also one with powerful deflationary undertows. This insight has important implications for macroprudential and monetary policy.

Mehrling argued that the Federal Reserve and other core central banks have taken these new “stylized” facts of market-based credit systems to heart when conducting monetary operations. He suggested that the Fed has added the role of “dealer of last resort” to its traditional role of “lender of last resort.” This type of policy is designed not to simply improve funding liquidity, but also market liquidity, which can only be achieved by directly serving as counterparty to non-bank financial institutions.

Regarding ongoing regulatory efforts, Sweeney noted that the issue is whether it is prudent to be constraining the market-based credit system’s ability to produce private forms of money while not providing a public alternative. A similar tug-of-war can be seen between regulatory plans to force the standardization and central clearing of some types of over-the-counter derivatives (which will place additional stress on the existing supply of high quality collateral) and central bank actions through unconventional monetary policy to stimulate credit growth. These tensions highlight the complex and poorly understood relationship between monetary and financial regulatory policies. Conversely, as Thorvald Grung Moe, senior adviser at Norges Bank opined, we may also have to accept the possibility that our modern financial system and its ability to generate staggering levels of private endogenous liquidity during credit cycle upswings have grown far too large to govern, and one of the proximate determinants of this growth has been the implicit liquidity puts offered by central banks.

⁹ The supply of usable collateral/safe assets in a market-based credit system (as opposed to a traditional bank-based system) is influenced not only by the quantity of pledgeable assets, but importantly also by the haircuts applied to these assets and the velocity by which they circulate in the financial system through the process of rehypothecation. How monetary policy, fiscal policy, macroprudential policy and financial regulation (separately and in tandem) influence these three variables remains a fertile ground for research.

Macroprudential Regulation: Policy in a New Age of Complexity

The financial system is not simply a veil behind which savings are channelled into investment; rather, it has a very real life of its own. But the dichotomy between credit and money translates into confusion and uncertainty in public policy. Simply put, economists’ ignorance of macrofinancial systems remains, and participants felt the starting point of regulation should be with this admission. The tremendous elasticity of modern credit systems raises important questions about their governance. Moe raised a number of potential questions, including: Should the official sector validate private forms of money? Should public institutions be made responsible for the maintenance of market liquidity? If the answer is yes, do governments not risk (further) becoming the ultimate arbitrators between insolvency and illiquidity? If private forms of money are inherently unstable, should governments attempt to support the supply of short-term safe assets?

The GFC demonstrated that there is no clear relationship between price stability and financial stability — guaranteeing one will not guarantee the other. What is also clear is that asking central banks to target both price stability and financial stability with their main policy instrument introduces potential trade-offs and conflicts of accountability — much like asking them to also target full employment. Can we ever really develop a Taylor Rule¹⁰ for all three of these goals? The answer, as Ragan noted, is probably not.

As a result, macroprudential tools have been put forward as a potential second policy instrument. However, if price stability and financial stability push in opposing directions, how are conflicts to be resolved? As Ragan argued, one possible solution would be a two-house approach, where a separate institution would be tasked with achieving financial stability. Participants raised a number of questions about this approach: Would this new institution be given the type of independence that central banks generally have? If attaining the credibility of markets dictates strong independence, how would lines of accountability be structured? If it is deemed necessary that all relevant government agencies require a voice in this new institution, how would the decision-making process be organized? Most importantly, how would success or failure be measured? Price stability and unemployment are relatively easy to measure, but

¹⁰ The Taylor Rule is a monetary policy rule designed to provide guidance to policy makers on how to set short-term interest rates, and to respond to market developments in order to balance the twin objectives of price and output/employment stabilization. See Taylor, 1993.

deciding on a definition of financial stability — let alone measuring it — appears to be a daunting challenge. Without these basics in place, how can clear and credible communications strategies be developed and implemented?

Reflecting on these challenges, conference participants concluded that greater collaboration between academic researchers and policy practitioners is needed. These groups often fail to communicate and frequently approach economic problems in very different ways. As Ragan said, “Often the things that are keeping policy makers up at night are not the same things that are animating the thinking of the policy modellers.” This is not to suggest that academics should stop building models through simplifying the economic world; the insights derived from these assumptions are invaluable. However, the “real” world of policy making is far messier and more uncertain. Theory could serve policy and practice far more effectively if both groups were aware of the challenges that each faces.

The Great Recession: Structural and Cyclical Causes

Any discussion of macroeconomic policy must necessarily touch on the cyclical and structural forces that impede a strong, sustainable and balanced global recovery. These issues were emphasized at the conference through a candid debate between Richard Koo, chief economist at the Nomura Research Institute, and Bruce Greenwald, professor at Columbia University, on lessons from the Japanese experience of the past two decades, and panel discussions by CIGI Distinguished Fellow Paul Jenkins, former senior deputy governor at the Bank of Canada, and Gennaro Zezza, associate professor of economics at the Università di Cassino, on more recent experiences in the euro zone.

Koo’s message was simple: “this time is different.” His position was that there is something fundamentally different about the nature of the current phase of stagnant growth that most of the developed world continues to experience. He dubbed this macroeconomic phenomenon the “balance sheet recession.” A striking example is the case of the Japanese firms that continued to pay down debt during Japan’s “lost decades,” despite their decent cash flows and zero-bound interest rates.

To explain this perplexing phenomenon, Koo offered the example that a large portion of the Japanese corporate sector was actually “underwater,” but with decent cash flows they masked their balance sheets and quietly paid down the massive debt overhangs inherited from the bubble years of Japanese growth. Contrary to traditional microeconomic thought, Japanese firms were actually motivated by a desire to minimize debt rather than

to maximize profit. With the Japanese private sector savings in excess of 10 percent of the GDP, the Bank of Japan struggled to generate even modest growth in price levels. By itself, re-inflation could not return the Japanese economy to growth, because these balance sheet dynamics were motivating firms’ behaviour, demonstrating that monetary policy truly does become an exercise in “pushing one end of a string.”

These are precisely the same dynamics that continue in many of the developed world’s economies. It is the unwillingness of borrowers to borrow, rather than the unwillingness of banks to lend, that is the impediment to growth, rendering traditional liquidity support from central banks and capital injections by governments largely ineffective. When dealing with a balance sheet recession, a government can only ensure that all unborrowed savings are mopped up by government borrowings. Failure to do so, Koo states, almost guarantees a double-dip recession — as recent events in Great Britain and the euro zone clearly demonstrate.

The continued euro crisis underscores the need for a new policy mix. Jenkins reflected that euro-zone policy makers face a serious problem of dynamic inconsistency in resolving the current crisis. Without the correct policy mix to address the short-term malaise afflicting the common currency, there will be a shortage of capacity and political will to put the longer-term governance structures and institutions that are needed in place. One of the primary takeaways is that euro-zone leaders have yet to face up to the fact that they may have been lending into insolvency rather than illiquidity to support distressed sovereigns.

Provocatively, Jenkins put Canada forward as an example of a currency union that is not a classical optimal currency area,¹¹ but that has been able to resolve these deficiencies through a long trial-and-error process of institution building. In particular, he argued, Canada has established an institutional structure defined by a central bank with a clear remit and an ability to lend aggressively as a lender of last resort; a federal fiscal authority capable of risk-sharing through the effective use of automatic stabilizers; a national banking regulator; a national deposit insurance scheme; mechanisms for ensuring all relevant national authorities are brought together to manage financial stability; and an ongoing (albeit still incomplete) project to promote mobility and flexibility in labour and product markets. Euro-zone leaders, he argued, would be wise to draw lessons from

¹¹ The traditional definition of an “optimal currency area” was put forward by Canadian Nobel laureate Robert Mundell in his classic 1961 treatise on the topic.

the economic and political histories of countries like Canada.

Zeza offered a slightly different approach to the euro zone's debt sustainability problem, using an SFC framework. His research suggests that, owing to the internal dynamics of the common currency, the continued focus on austerity (and bailouts) is unlikely to bear fruit. His logic is simple, but incredibly prescient: "In a closed system, the creditor can be paid by the debtor, ultimately, only when she increases net purchases from the debtor."¹² When the assumption of expansionary austerity — or at the very least, very small fiscal multipliers — is predicated largely on offsetting aggregate demand generated through an improvement in the current account, and no such mechanism exists to allow this (as is the case within a single currency like the euro zone), austerity can become largely self-defeating. With the entire common currency zone pursuing strong fiscal consolidation plans, this negative dynamic is amplified.

With large portions of periphery euro-zone assets held by core countries, the servicing of these debts generates a flow of funds out of periphery countries, leading to a further drag on aggregate demand. When these dynamics trigger rising interest rates in periphery countries, the drag is magnified and compounded by the fact that even domestic recipients are, as creditors, less likely to spend a high fraction of each euro received. Without a proper adjustment mechanism within the euro zone, the continued sustainability of the entire project becomes potentially untenable. Such dynamics also risk increasing inequality by continuing the slide toward returns to capital taking larger and larger shares of the GDP.

In a broader context, Greenwald argued there are very real underlying structural forces limiting the ability of economies to return to potential. What is at work, rather than simply impaired private sector balance sheets, is a once-in-a-century structural shift in the global economy, particularly in developed economies. The large, positive technology shocks from the manufacturing sector over the past two decades have translated into productivity growth far outstripping demand growth for these goods, leading to massive resources becoming trapped in this sector.

The historical analogue is the Great Depression, where the United States resisted the restructuring of its economy from agriculture to manufacturing. By doing so, collapsing incomes for agricultural workers bled

over into the rest of the economy, bringing down the manufacturing sector as well. Similar dynamics were also at play in the rest of the global economy, precipitating beggar-thy-neighbour policies and a full-blown global depression.

Greenwald's insights provide an additional nuance to the long-identified deflationary bias in the international monetary system. Where Keynes emphasizes the asymmetry in the burden of adjustment between deficit and surplus countries, Greenwald argued that the primary motive for running current account surpluses is the need for countries with large manufacturing bases to support these sectors through export-led growth. These economies, such as Finland, Japan and most of emerging East Asia have far too much manufacturing capacity to support these sectors solely through domestic demand. As Greenwald noted, "There is one big global problem: when you add over all countries, the deficits and the surpluses have to add to zero. Somebody has to eat those deficits... Who is the deficit country of last resort? It is the United States."

Countries that run chronically large deficits struggle to maintain full employment because they are forced to support the surpluses of other countries. In the pre-crisis decade, the United States achieved full employment solely through rising housing prices and debt-driven consumption growth. Without the United States and other large deficit countries willing to absorb the world's manufacturing glut, where will growth come from? Greenwald argued that until powerful manufacturing countries are willing to let go of their dying sectors and purposely restructure their economies toward generating powerful service sectors, global growth will continue to stagnate.

The comparison to the Great Depression is particularly apt. With the benefit of historical hindsight, we now know that what was primarily an effort to win a world war was, in fact, one of the largest cases of industrial policy (and Keynesian stimulus) ever witnessed. Whether governments and their electorates — who continue to suffer from a "widget delusion" — will heed the lessons of history is the question that remains.

HISTORY, FINANCE AND THE LAW

That economics owes its origins to moral philosophy and political economy may surprise many. Indeed, it seems to have taken the GFC for multidisciplinary thought to come back in vogue in the study and application of economics. Stepping outside of the field's internal divisions, conference participants were challenged to consider the cross-linkages of economics with history and law. As keynote speaker Emma Rothschild, professor

¹² This quotation is borrowed directly from one of Zeza's conference presentation slides.

of history at Harvard University, put it, it is only when a crisis of “historical proportions” results in a considerable flux in economic theories that economic history and the history of economic thought are brought together to explain the events as they unfold. While history is a useful vessel for providing much-needed perspective on economic policies, the law establishes the framework that economics and finance must take into account — however reluctantly — particularly its relationship to power and influence.

Dichotomies in History and Economics: The Market and the State

All thought is thinking with history; how can one think with the future?

— Emma Rothschild

Rothschild reflected on the complex and multi-faceted relationship between the state and the market in the modern economic system — a relationship that has evolved markedly since the Great Depression. Where the government once engaged actively in economic life (in the sense of directly involving itself in the means of production), the modern state influences economic and social outcomes by structuring markets, creating markets where none exist, and generating indirect wealth flows to benefit targeted commercial and socio-economic groups. In this way, the state is both within and outside markets, regulating and participating where it deems necessary. This is reflected in the changing nature of the government’s immersion in economic life. Despite largely flat growth in total government spending since the Reagan-Thatcher Revolution (admittedly ignoring the one-off effects of the Great Recession), the “insidiousness” (as Rothschild refers to it) of government involvement in economic life has arguably increased. The nature of government has become intimately intertwined with the nature of economic life itself, as it now exerts a far greater influence over, Rothschild said, the “social and ethical value of free enterprise.”

Similarly, the discourse over the extent to which the state should be active in the economic system has ebbed and flowed throughout the post-Bretton Woods era. The two breakwater points — the tumultuous late 1970s to early 1980s and the current post-GFC period — are often framed by our perception of the “usurping state” of the New Deal and Welfare State. These debates tend to reinforce the state-market dichotomy, while obscuring what the state does as an economic agent, how this

has evolved over time and even how we measure such activities.¹³

Economic thought has not been immune from these political developments; rather, it has been completely embedded and socialized into these debates. The theories of Keynes and Samuelson, for example, were unquestionably influenced by their own experiences during the Great Depression and the interwar period. As a native Austro-Hungarian, Hayek experienced first-hand the rise of totalitarianism in Central Europe, while the “fathers” of the rational expectations revolution, such as Thomas Sargent, John B. Taylor and Robert Lucas came of intellectual age during the stagflation of the 1970s. It should come as no surprise that the Victorian-era credit cycles and the works of endogenous financial instability proponents like Hyman Minsky and James Tobin have all been dusted off the shelves during the current period of intellectual renewal.

Rothschild further argued that a vigorous historical investigation of the nature of state-market interactions is needed most. The most recent examples of such interventions include the 2008-2009 (bipartisan) policies to save the financial system with bank bailouts, the industrial system with auto bailouts and the economic system by averting a catastrophic economic crisis. Clearly, such a major intervention can be seen as being imposed by a “bad, interventionist government,” but on the other hand, wasn’t such intervention warranted by the market failure? After all, the government policies that were introduced at the time seem to have stabilized the situation. In this context, however, a more fundamental question arises: what if the financial crisis was a market failure caused by bad regulation? This would suggest the state’s inability to fulfill its judicial responsibilities to provide a framework for the rule of law.

Dichotomies in Law and Finance

Katharina Pistor, professor of law at Columbia Law School, presented a fledgling “legal theory of finance” suggesting the co-dependency of law and finance renders financial systems inherently unstable due to the existence of fundamental uncertainty (i.e., the inability to foresee and model the risk of certain events) and the presence of binding liquidity constraints. If liquidity were a free good, and if all risks were measurable (i.e., if knowledge were perfect) and allowed precautions to be

¹³ On this latter issue, discussants raised the question of whether the current US national income and product accounts (NIPAs) adequately reflect the nature of government involvement in the economy. For example, transfer payments, which now constitute close to a majority of US government spending, are not captured by the “G” in NIPA accounts.

taken to contract away liquidity risk, financial markets would inherently be more resilient. When combined with the (largely) false dichotomy of credit and money, the very real dichotomies between uncertainty and risk, and between knowledge and information, prove critical to understanding the nature of financial systems. Contrary to conventional wisdom, simply improving transparency and reducing information asymmetries are necessary, but not sufficient, to generate self-regulating and self-equilibrating markets.

Pistor further argued that finance is inherently hybrid in nature, as its public and private components are dependent on one another at all times. Even in cases where financial deregulation is the norm, the state is still required to guarantee and enforce all contracts. In other words, deregulation is simply the devolution of authority to the market to determine regulation. Just as Rothschild argued, the dichotomy between state and market also ultimately proves false. Similarly, because finance is legally constituted, it is not useful to view the law and finance as independent systems; rather, they are always codependent and co-evolving systems and, at all times, embedded in political life.

From the basic premise that fundamental uncertainty and liquidity constraints render financial systems unstable, it follows, as Pistor argued, that if all financial “contracts were enforced as written *ex ante*, the system would inevitably self-destruct.” To avoid that outcome, according to her, “law’s binding power must be relaxed or suspended...yet [paradoxically], doing so will undermine the credibility of financial commitments.” The law must therefore contain a fundamentally elastic component. The degree of elasticity is determined by the risk that certain contracts, or the institutions that have entered into them, pose to financial stability. As she observed, “where law is flexible, power becomes salient.”

The fundamental question, Moe then suggested, becomes to what extent the public sector should validate private forms of money, as the fact that different central banks’ various collateral lending policies ultimately rest upon different answers to this very question. Given their endogenous instability, how should institutions tasked with financial stability approach the design of long-term policy frameworks? As Moe has argued elsewhere, the problem that remains is that “policy cannot be set in stone independent of legal, external and internal factors, and that attempts to do so (or pretend that one can derive a common global standard) are misplaced and will lead to time-inconsistent policies” (2012).

CONCLUSION: BEYOND FALSE DICHOTOMIES

The GFC has left the study and profession of economics more divided than it has been in over a generation; the last decade’s tentative peace between New Keynesian and New Classical economics appears increasingly frayed. For many in the field, the GFC validated previous convictions over the importance of market frictions and failures in understanding macroeconomic systems.

This conference shed light on the internal and external divisions in economics and the very significant intellectual (and human) costs that false dichotomies can generate. Conference participants generally agreed that if the legacy of the GFC only serves to entrench a new “rational versus non-rational expectations” dichotomy, then little will have been learned from recent events. Similarly, participants felt that, rather than focusing on whether market or governance failures are to blame, a more productive pursuit would be to investigate how these classes of failures interact to affect actor incentives and, ultimately, macrofinancial outcomes. The profession and study of economics should, conference participants suggested, become more inclusive and better able to respond to future challenges. Above all, what is needed is an economics that is willing to earnestly admit the complexity of economic systems, a fact that necessitates a corresponding degree of humility on the part of academics and practitioners alike.

Acknowledgements

Kevin English would like to extend his sincere thanks to Paul Jenkins, CIGI distinguished fellow; Agata Antkiewicz, CIGI senior researcher; and Pierre Siklos, CIGI senior fellow for their kind mentorship and support. INET economist Daniel H. Neilson provided indispensable input, while Carol Bonnett, Vivian Moser and Sonya Zikic, of the CIGI Publications Team, were highly supportive throughout the entire editing process.

Kevin English is a candidate for the M.A. in global governance at the Balsillie School of International Affairs and a former junior fellow at CIGI. His academic and policy research centres around international monetary system reform, global imbalances and the G20 summit process. He currently works as a policy analyst at Foreign Affairs and International Trade Canada (DFAIT). This report was written while he was working at DFAIT, and the views expressed are solely those of the author and should not be attributed to DFAIT.

WORKS CITED

- Bezemer, Dirk (2009). “No One Saw this Coming’ — Or Did They?” *Vox*, September 30. Available at: www.voxeu.org/article/no-one-saw-coming-or-did-they.
- Credit Suisse (2012). “When Collateral Is King.” Global Strategy Research Market Focus, March 15. Available at: <https://plus.credit-suisse.com/researchplus/ravDocView?docid=F3ARb1>.
- Cynamon, Barry Z. and Steven M. Fazzari (2008). “Household Debt in the Consumer Age: Source of Growth — Risk of Collapse.” *Capitalism and Society* 3, no. 2.
- King, John E. (2012). *The Microfoundations Delusion: Metaphor and Dogma in the History of Macroeconomics*. Cheltenham: Elgar.
- Korinek, Anton and Jonathan Kreamer (2012). *The Redistributive Effects of Financial Deregulation*. Cambridge: National Bureau of Economic Research.
- Mehrling, Perry G. (2012). “A Money View of Credit and Debt.” INET Working Paper.
- Moe, T. G. (2012). “Shadow Banking and the Limits of Central Bank Liquidity Support: How to Achieve a Better Balance between Global and Official Liquidity.” Levy Economics Institute of Bard College Working Paper No. 712. Available at: www.levyinstitute.org/pubs/wp_712.pdf.
- Mundell, R. (1961). “A Theory of Optimum Currency Areas.” *The American Economic Review* 51, no. 4: 657–665.
- Taylor, John B. (1993). “Discretion Versus Policy Rules in Practice.” *Carnegie-Rochester Conference Series on Public Policy* 39: 195–214.

CONFERENCE AGENDA

Unless otherwise noted, all sessions will take place in the CIGI Campus building at 67 Erb Street West, Waterloo, Ontario. INET Research Program Meetings are by invitation only.

THURSDAY, NOVEMBER 15, 2012		ROOM
13:30 – 14:00	INET RESEARCH PROGRAM MEETINGS AND MINI-SCHOOL REGISTRATION	Foyer
INET RESEARCH PROGRAM MEETINGS		
14:00 – 16:30	1. Systemic risk and financial networks	LS 131
15:00 – 17:00	2. Agent-based and stock-flow consistent macroeconomics	BSIA Boardroom
MINI-SCHOOL		
14:00 – 17:00	1. Inequality: • Peter Skott , <i>Professor, University of Massachusetts</i> • Roberto Veneziani , <i>Senior Lecturer, Queen Mary, University of London</i>	TC 143
14:00 – 17:00	2. Instability: • Steven Fazzari , <i>Professor, Washington University</i> • Blake LeBaron , <i>Abram L. and Thelma Sachar Chair of International Economics, Brandeis International Business School</i>	MR 142
19:00 – 22:00	INET RESEARCH PROGRAM MEETINGS AND MINI-SCHOOL PARTICIPANTS' INFORMAL WELCOME DINNER	Waterloo Inn Schubert Salon C
FRIDAY, NOVEMBER 16, 2012		ROOM
08:00 – 08:45	Continental breakfast	CIGI Atrium
INET RESEARCH PROGRAM MEETINGS		
09:00 – 12:00	1. Systemic risk and financial networks	LS 131
09:00 – 12:00	2. Agent-based and stock-flow consistent macroeconomics	BSIA Boardroom
09:00 – 12:00	3. Shadow banking colloquium	SS 127
MINI-SCHOOL		
09:00 – 12:00	1. Inequality: • Peter Skott , <i>Professor, University of Massachusetts</i> • Roberto Veneziani , <i>Senior Lecturer, Queen Mary, University of London</i>	TC 143
09:00 – 12:00	2. Instability: • Steven Fazzari , <i>Professor, Washington University</i> • Blake LeBaron , <i>Abram L. and Thelma Sachar Chair of International Economics, Brandeis International Business School</i>	MR 142
12:30 – 13:30	INET RESEARCH PROGRAM MEETINGS AND MINI-SCHOOL PARTICIPANTS' LUNCH	CIGI Atrium
13:45 – 14:45	INET YOUNG SCHOLARS INITIATIVE CAREER WORKSHOP (MINI-SCHOOL PARTICIPANTS ONLY) • Giovanni Dosi , <i>Professor, Sant'Anna School of Advanced Studies</i> • Cars Hommes , <i>Professor, University of Amsterdam</i>	MR 142

FRIDAY, NOVEMBER 16, 2012		ROOM
14:00 – 15:00	FALSE DICHOTOMIES CONFERENCE REGISTRATION	Foyer
15:00 – 15:30	WELCOME <ul style="list-style-type: none"> • Robert A. Johnson, <i>Executive Director, INET</i> • Rohinton Medhora, <i>President, CIGI</i> INTRODUCTION TO THE CONFERENCE <ul style="list-style-type: none"> • Daniel H. Neilson, <i>Financial Stability Research Program, INET</i> 	Auditorium
15:30 – 17:00	PLENARY SESSION 1 GOVERNANCE OF THE REAL AND FINANCIAL ECONOMIES Speakers: <ul style="list-style-type: none"> • Anton Korinek, <i>Assistant Professor, University of Maryland</i> • Antoine Mandel, <i>Associate Professor, Université Paris 1</i> • Christopher Ragan, <i>Associate Professor, McGill University</i> Respondents: <ul style="list-style-type: none"> • Cars Hommes, <i>Professor, University of Amsterdam</i> • Dawn Parker, <i>Associate Professor, University of Waterloo</i> 	Auditorium
17:00 – 18:00	COCKTAIL RECEPTION	CIGI Atrium
18:00 – 21:00	DINNER AND KEYNOTE ADDRESS <ul style="list-style-type: none"> • Emma Rothschild, <i>Jeremy and Jane Knowles Professor, Harvard University</i> 	CIGI Atrium
SATURDAY, NOVEMBER 17, 2012		ROOM
08:00 – 08:45	Continental breakfast	CIGI Atrium
09:00 – 10:30	PLENARY SESSION 2 THE IDEAS OF ECONOMICS AGAINST THE CHALLENGES OF OUR TIME Speakers: <ul style="list-style-type: none"> • Lance Taylor, <i>Arnhold Professor of International Cooperation and Development, The New School for Social Research</i> • Judy Klein, <i>Professor and Associate Director, Institutional Research, Mary Baldwin College</i> • John Smithin, <i>Professor, York University</i> 	Auditorium
10:30 – 10:45	Break	
BREAKOUT SESSIONS		
10:45 – 12:00	3A. HISTORICAL AND THEORETICAL POLITICAL ECONOMY Speakers: <ul style="list-style-type: none"> • Alex Coram, <i>Winthrop Professor, University of Western Australia</i> • Carl Wennerlind, <i>Professor, Barnard College, Columbia University</i> • Ronald Wintrobe, <i>Professor, Western University; Co-Director, Political Economy Research Group, Western University</i> 	TC 143
10:45 – 12:00	3B. SOCIAL EQUITY, ENVIRONMENT AND DISTRIBUTION Speakers: <ul style="list-style-type: none"> • Peter Victor, <i>Professor, York University</i> • Ross McKittrick, <i>Professor, University of Guelph</i> • Marc-André Pigeon, <i>Director, Financial Sector Policy, Credit Union Central of Canada</i> 	MR 142

SATURDAY, NOVEMBER 17, 2012		ROOM
10:45 – 12:00	3C. AGGREGATION AND INTERLINKAGES Speakers: <ul style="list-style-type: none"> • Stefano Battiston, Senior Researcher, Chair of Systems Design, Swiss Federal Institute of Technology • Gennaro Zezza, Associate Professor, Università di Cassino; Research Scholar, Levy Economics Institute, Bard College • Leanne Ussher, Assistant Professor, Queens College, CUNY 	CIGI Seagram Room
12:30 – 14:00	LUNCH — THE GREAT RECESSION: STRUCTURAL AND CYCLICAL CAUSES Moderator: <ul style="list-style-type: none"> • Robert A. Johnson, Executive Director, INET Speakers: <ul style="list-style-type: none"> • Bruce Greenwald, Robert Heilbrunn Professor, Columbia Business School, Columbia University • Richard Koo, Chief Economist, Nomura Research Institute 	CIGI Atrium
BREAKOUT SESSIONS		
14:00 – 15:15	4A. GLOBAL INEQUALITY Speakers: <ul style="list-style-type: none"> • Sanjay Reddy, Associate Professor, The New School for Social Research; Co-Academic Director, India China Institute, The New School for Social Research • Salvatore Morelli, Doctoral Student, University of Oxford • Jim Davies, Professor, Western University 	TC 143
14:00 – 15:15	4B. MONEY MARKETS AND CAPITAL MARKETS: THE SHADOW BANKING SYSTEM Speakers: <ul style="list-style-type: none"> • Perry G. Mehrling, Director, Educational Initiatives, INET; Professor, Barnard College • Thorvald Grung Moe, Senior Adviser, Norges Bank • James Sweeney, Managing Director, Global Strategy Team, Credit Suisse Group 	MR 142
14:00 – 15:15	4C. FINANCE, THE STATE AND DISTRIBUTION Speakers: <ul style="list-style-type: none"> • Lance Lochner, Professor, Western University • D'Maris Coffman, Mary Bateson Research Fellow, Newnham College, University of Cambridge • L. Randall Wray, Professor, University of Missouri 	CIGI Seagram Room
15:15 – 15:30	Break	
15:30 – 17:00	ROUND TABLE DISCUSSION ECONOMIC POLICY AFTER THE GREAT RECESSION Speakers: <ul style="list-style-type: none"> • Pavlina Tcherneva, Assistant Professor, Bard College • Mario Seccareccia, Professor, University of Ottawa • Paul Jenkins, Distinguished Fellow, CIGI • Barry Cynamon, Visiting Scholar, Household Financial Stability, Federal Reserve Bank of St. Louis • Richard Werner, Managing Director and Chief Strategist, Profit Research Center Ltd. 	Auditorium
17:00 – 18:00	COCKTAIL RECEPTION	CIGI Atrium
18:00 – 21:00	DINNER AND KEYNOTE ADDRESS <ul style="list-style-type: none"> • Katharina Pistor, Michael I. Sovern Professor of Law, Columbia Law School 	CIGI Atrium

SUNDAY, NOVEMBER 18, 2012		ROOM
08:00 – 09:00	Continental breakfast	Foyer
09:00 – 12:15	INET RESEARCH PROGRAM MEETINGS	
09:00 – 10:30	Economics of Credit and Debt	BSIA Boardroom
10:30 – 10:45	Break	
10:45 – 12:15	Economics of Credit and Debt (continued)	BSIA Boardroom
12:30 – 13:30	INET RESEARCH PROGRAM MEETINGS PARTICIPANTS' LUNCH	Foyer

SPEAKER BIOGRAPHIES

Stefano Battiston, Senior Researcher, Chair of Systems Design, Swiss Federal Institute of Technology (ETH)

Stefano Battiston is senior researcher at the Chair of Systems Design, ETH, Zurich, and is involved in INET as a grantee, reviewer and member of the task force on systemic risk. He is one of the most active European researchers in the area of complex economic and financial networks. Mr. Battiston's work ranges from empirical analysis of large economic networks to the modelling of their formation, covering topics such as corporate control, innovation, decision making, knowledge-sharing networks and financial risk. Since 2005, his main interest has been financial contagion, where he combines insights from the statistical mechanics of networks with the analysis of economic incentives. He is currently involved in the coordination of the European scientific project, Forecasting Financial Crises, aimed at anticipating structural instabilities in global financial networks. Mr. Battiston also manages a Swiss project on the impact of over-the-counter derivatives on systemic risk. His recent work on the global corporate network as well as on DebtRank, a measure of systemic impact inspired by feedback-centrality, was widely covered in the media.

D'Maris Coffman, Mary Bateson Research Fellow, Newnham College, University of Cambridge

D'Maris Coffman is the Mary Bateson research fellow, director of the Centre for Financial History and affiliated lecturer for the Faculty of History, all at the University of Cambridge's Newnham College. She works on the relationship between public finance and private capital markets in eighteenth- and nineteenth-century Europe. Most of her recent publications arise from her doctoral thesis on the advent of excise taxation during the English Civil Wars and Interregnum. With Anne Murphy of the University of Hertfordshire, Ms. Coffman co-manages the European State Finance Database, an international project collecting sources and data of European fiscal history. She also sits on the council of the Economic History Society. Ms. Coffman received her M.A. and Ph.D. in history from the University of Pennsylvania and her B.Sc. in economics from the Wharton School, University of Pennsylvania.

Alex Coram, Winthrop Professor, University of Western Australia

Alex Coram is Winthrop Professor of Political Economy at the University of Western Australia, visiting professor at the Aberdeen Business School and holds an honorary

professorship at the University of Tasmania. Mr. Coram held the Helen Sheridan chair in economics at the University of Massachusetts. Previously, he worked for the Department of Infrastructure in Victoria, Australia, on models of city development and providing training programs for senior management. Mr. Coram has consulted for law firms on issues of contracting, as well as on energy problems and nuclear power. His main area of research is in social and political economic theory. He has published on problems of conflicts over distribution, arms races, resource allocation and competition between political parties.

Barry Cynamon, Visiting Scholar, Household Financial Stability, Federal Reserve Bank of St. Louis

Barry Cynamon is a visiting scholar in the new research initiative of the Federal Reserve Bank of St. Louis, Household Financial Stability. His research interests include consumption and saving decisions, banking and financial regulation. Mr. Cynamon is also a research associate at the Weidenbaum Center at Washington University in St. Louis. He recently co-edited the book *After the Great Recession: The Struggle for Economic Recovery and Growth* (with Steven Fazzari and Mark Setterfield, 2012), which investigates the sources of and responses to the Great Recession. He holds his B.A. in economics from Washington University and an M.B.A. from the University of Chicago.

Jim Davies, Professor, Western University

Jim Davies is a professor in the Department of Economics at Western University. He has been a faculty member since 1977, served as chair of the department from 1992 to 2001 and has been the director of the university's Economic Policy Research Institute since 2001. In 2010, Mr. Davies completed a five-year term as managing editor of *Canadian Public Policy*. He was the director of an international research program on household wealth for the United Nations University World Institute for Development Economics Research. The results were published in the volume *Personal Wealth from a Global Perspective* (2008), which Mr. Davies edited. He has authored two other books and over 60 articles and chapters on a wide range of topics. In 2011, he, A.F. Shorrocks and others co-authored an article in the *Economic Journal* that reported the first estimates of the global size distribution of wealth. Mr. Davies received his Ph.D. from the London School of Economics and Political Science (LSE) in 1979.

Giovanni Dosi, Professor, Sant'Anna School of Advanced Studies

Giovanni Dosi is professor of economics and director of the Institute of Economics at the Sant'Anna School of Advanced Studies in Pisa, Italy. He also serves as director of the Industrial Policy and Intellectual Property Rights task forces at the Initiative for Policy Dialogue at Columbia University. Additionally, Mr. Dosi is a continental Europe editor of the journal *Industrial and Corporate Change*. He is included in the 2000–2008 ISI Highly Cited Research list, denoting those who made fundamental contributions to the advancement of science and technology, and is a corresponding member of the Accademia Nazionale dei Lincei, the first academy of sciences in Italy.

Steven Fazzari, Professor, Washington University

Steven Fazzari is professor of economics and associate director of the Weidenbaum Center on the Economy, Government, and Public Policy at Washington University, Missouri. Mr. Fazzari's research explores the financial determinants of investment and research and development spending by US firms, and the foundations of Keynesian macroeconomics. His papers appear in a wide variety of academic journals and books, and his research commentaries on public policy issues have been highlighted in the national media. INET supports Mr. Fazzari's current research — studies in economic growth, fiscal policy and the macroeconomic effects of inequality — as well as his development of a new Web resource that explains basic Keynesian economics and its relevance to current policy issues, aimed for a general audience. His teaching awards include the Governor's Award for Excellence in Teaching (Missouri), the Emerson Excellence in Teaching Award (St. Louis, Missouri) and Washington University Distinguished Faculty Award. Mr. Fazzari holds a Ph.D. in economics from Stanford University (1982).

Bruce Greenwald, Robert Heilbrunn Professor, Columbia Business School, Columbia University

Bruce Greenwald is the Robert Heilbrunn Professor of Finance and Asset Management at Columbia Business School and is the academic director of the Heilbrunn Center for Graham & Dodd Investing. Dubbed "a guru to Wall Street's gurus" by *The New York Times*, Mr. Greenwald is an authority on value investing, with additional expertise in productivity and the economics of information. He has been recognized for his outstanding teaching abilities and has been the recipient of numerous awards, including the Columbia University Presidential Teaching Award honouring teachers for maintaining Columbia University's reputation for educational

excellence. His classes are consistently oversubscribed, with more than 650 students taking his courses every year in subjects such as value investing, economics of strategic behaviour, globalization of markets and strategic management of media.

Cars Hommes, Professor, University of Amsterdam

Cars Hommes is professor of economic dynamics at the University of Amsterdam. He is also the director of the Center for Nonlinear Dynamics in Economics and Finance, an interdisciplinary research group on complexity, bounded rationality and heterogeneous expectations pursuing new economic thinking through theory, empirical work and laboratory experiments with human subjects. Since 2002, Mr. Hommes has been an editor of *Journal of Economic Dynamics and Control* and is currently on the editorial boards of *Macroeconomic Dynamics*, *Journal of Nonlinear Science*, *Computational Economics*, *Journal of Economic Behavior & Organization* and *Journal of Economic Interaction and Coordination*. His research interests include nonlinear dynamics, evolutionary dynamics, behavioural economics and finance, expectations and learning, bounded rationality and experimental economics. Mr. Hommes obtained his Ph.D. in mathematical economics at the University of Groningen in 1991.

Paul Jenkins, Distinguished Fellow, CIGI

CIGI Distinguished Fellow Paul Jenkins provides strategic advice to the Global Economy Program, including activities related to CIGI's partnership with INET and broader macroeconomic issues. From 2003 to 2010, he served as senior deputy governor of the Bank of Canada. In 2011, he co-authored the special report *Preventing Crises and Promoting Economic Growth* with Paola Subacchi. Mr. Jenkins received his M.Sc. in economics from the LSE and his B.A. in economics from Western University. In addition to his position at CIGI, he is a member of the board of governors of Western University, senior distinguished fellow in the Faculty of Public Affairs at Carleton University and a senior fellow at the C. D. Howe Institute.

Robert A. Johnson, Executive Director, INET

Robert A. Johnson is the executive director of INET and a senior fellow and director of the Project on Global Finance for the Roosevelt Institute in New York. Mr. Johnson is an international investor and consultant to investment funds on issues of portfolio strategy. He recently served on the United Nations Commission of Experts on International Monetary Reform under the chairmanship of Joseph Stiglitz. Prior to his role as managing director at Soros Fund Management, Mr.

Johnson was a managing director at Bankers Trust Company, managing a global currency fund. He served as chief economist of the US Senate Banking Committee under the leadership of Chairman William Proxmire (D., Wisconsin). Before that, he was senior economist of the US Senate Budget Committee under the leadership of Chairman Pete Domenici (R., New Mexico). He currently sits on the board of directors of both the Economic Policy Institute and the Campaign for America's Future. Mr. Johnson received a Ph.D. and M.A. in economics from Princeton University and a B.S. in both electrical engineering and economics from the Massachusetts Institute of Technology (MIT).

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ABOUT CIGI

The Centre for International Governance Innovation is an independent, non-partisan think tank on international governance. Led by experienced practitioners and distinguished academics, CIGI supports research, forms networks, advances policy debate and generates ideas for multilateral governance improvements. Conducting an active agenda of research, events and publications, CIGI's interdisciplinary work includes collaboration with policy, business and academic communities around the world.

CIGI's research programs focus on four themes: the global economy; global security; the environment and energy; and global development.

CIGI was founded in 2001 by Jim Balsillie, then co-CEO of Research In Motion (BlackBerry), and collaborates with and gratefully acknowledges support from a number of strategic partners, in particular the Government of Canada and the Government of Ontario.

Le CIGI a été fondé en 2001 par Jim Balsillie, qui était alors co-chef de la direction de Research In Motion (BlackBerry). Il collabore avec de nombreux partenaires stratégiques et exprime sa reconnaissance du soutien reçu de ceux-ci, notamment de l'appui reçu du gouvernement du Canada et de celui du gouvernement de l'Ontario.

For more information, please visit www.cigionline.org.

ABOUT INET

The Institute for New Economic Thinking (INET) was created to broaden and accelerate the development of new economic thinking that can lead to solutions for the great challenges of the 21st century. The havoc wrought by our recent global financial crisis has demonstrated the deficiencies in our current economic theories and shown the need for new economic thinking. INET is supporting this fundamental shift in economic thinking through research funding, community building, and spreading the word about the need for change. We already are a global community of thousands of new economic thinkers, ranging from Nobel Prize winning economists to teachers and students who have emerged out from the shadows of prevailing economic thought, attracted by the promise of a robust economic discourse.

Our mission is to nurture a global community of next-generation economic leaders, to provoke new economic thinking, and to inspire the economics profession to engage the challenges of the 21st century.

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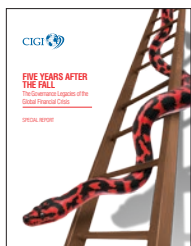
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John Helliwell and CIGI Experts

The effects of the global financial crisis are still felt across a spectrum of issues. Presented and discussed at CIGI's annual conference, these five papers provide insight and recommendations for building the governance arrangements required to deal with these enduring legacies.



CIGI '12 — FIVE YEARS AFTER THE FALL: THE GOVERNANCE LEGACIES OF THE GLOBAL FINANCIAL CRISIS

Deanne Leifso

The effects of the global financial crisis are still felt five years later, and were the focus of CIGI's annual conference. This report summarizes the international policy discussions and recommendations for the global governance arrangements required to counter the effects of the crisis.



A POLICY MISMATCH: CANADA AND THE UNITED STATES IN THE ASIA-PACIFIC REGION

James Manicom

The United States and Canada, two of the world's closest allies, have reinvigorated their diplomatic and military postures toward the Asia-Pacific region. On balance, however, Canada may not be an ideal Pacific partner for the United States.



FORGING A NEW STRATEGIC PARTNERSHIP BETWEEN CANADA AND MEXICO

Andrés Rozental and Perrin Beatty

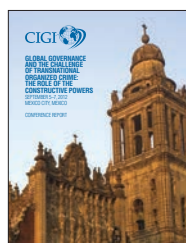
This report offers substantive recommendations that point to the benefit of efforts that will intensify bilateral partnerships, not only in their own right, but also in strengthening Canada and Mexico's ability to deal more effectively with the United States in pursuing matters of mutual concern.



CANADA'S RETURN TO EAST ASIA: RE-ENGAGEMENT THROUGH MARITIME DIPLOMACY

James Manicom

The Canadian government, after a decade of neglect, is prepared to re-engage East Asia, particularly China. Through maritime defence and cooperation endeavours, Canada's re-engagement efforts could improve the region's strategic stability and foster economic growth.



GLOBAL GOVERNANCE AND THE CHALLENGE OF TRANSNATIONAL ORGANIZED CRIME: THE ROLE OF THE CONSTRUCTIVE POWERS

Simon Palamar

The second meeting of the Constructive Powers Initiative took place in Mexico City in September 2012. The workshop addressed questions surrounding transnational organized crime and policy responses to it.



CANADA-US ARCTIC MARINE CORRIDORS AND RESOURCE DEVELOPMENT

John Higginbotham, Andrea Charron and James Manicom

In preparing for the commercialization of the Arctic Ocean, Canada and the United States face enormous opportunities in protecting economic and environmental interests; however, a number of challenges impede the fulfillment of this vision.



POST-2015 DEVELOPMENT AGENDA: GOALS, TARGETS AND INDICATORS

Barry Carin et al.

This special report examines the targets for the UN Millennium Development Goals (MDGs) that have been met and considers the global implications of the remaining unmet goals. The report reviews a menu of indicators for the candidate goals to inform the future process of selecting the post-2015 successors to the MDGs.



ZERO: THE SURPRISING AND UNAMBIGUOUS POLICY RELEVANCE OF THE CUBAN MISSILE CRISIS

James G. Blight and Janet M. Lang

Drawing on a quarter century of research on the Cuban missile crisis, this policy brief offers takeaways and recommendations for moving toward zero nuclear weapons.



POST-2015 GOALS, TARGETS AND INDICATORS

Barry Carin and Nicole Bates-Eamer

The UN Millennium Development Goals have been remarkably successful in mobilizing resources to address the major gaps in human development, but future goals must reach beyond traditional development thinking. This conference report discusses possible indicators for 12 potential post-2015 successor goals.

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