

September 2015



Welcome to the September 2015 issue of Velocitates. One of the core tenets of the SWIFT Institute is the dissemination of knowledge and information, and through this newsletter that is exactly what we'll do.

As I write this I am pleasantly surprised at just how much we've accomplished so far this year, and indeed in the few short years since launching the SWIFT Institute. We have recently issued our 30th grant and published our 16th paper.

We have been busy with events so far in 2015. The SWIFT Institute hosted cyber-security professionals for a day of in-depth (and at times frightening) dialogue in Delaware, in partnership with the University of Delaware. We sponsored two Finextra Future Money events; one in London and the other in Helsinki. And we have worked with colleagues at SWIFT at events in Copenhagen, London and Cape Town.

Sibos Singapore is fast approaching. We have an exciting line-up of lectures by some of the world's leading academics ready for Sibos, along with one or two fun events that you won't want to miss. We will round out the year with an event in New York in November looking at standards and regulation, with the aim of trying to build stronger foundations between regulators and the financial industry.

Six new research papers have been published since our last newsletter, covering topics including bitcoin, real-time payments, ASEAN securities, China securitisation, mutual fund outsourcing and compliance related to third-party payment providers. We have issued new research grants on CREST (the UK CSD, which next year will celebrate its 20th anniversary), mobile banking in Africa and two grants on a very topical area these days: blockchain and its potential in the securities space.

As ever these are interesting times. I look forward to meeting with many of you to discuss these and other issues at Sibos in Singapore.

Peter Ware

Topics in this issue

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Bridging the Gap between Academia and Financial Services

Snapshot: September 2015



Goals of the SWIFT Institute

- ▶ To bring science and practice together
- ▶ To fund independent research
- ▶ To support knowledge-led debate

Upcoming Research:

Impact of Blockchain in Securities CREST
 the Role of Big Data in Governance Mobile Banking in Africa
 Competition and Innovations in Payments Women in Finance



16

Papers published

Diversity of grantees



70% men

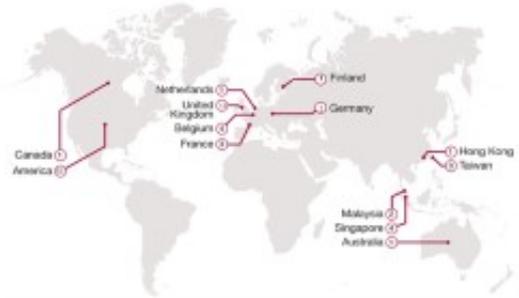


30% women

30

Grants awarded

Where in the world are those who received our grants?



To find out more, download the research papers, or to register for events, please visit <http://www.swiftinstitute.org>

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To download our infographic, click [here](#).

News



The SWIFT Institute

SWIFT Institute and University of Delaware Collaborate on Cyber Security Challenges



18th May 2015 – Vulnerabilities, malicious insider threats, cyber security tools and the cyber world post-Snowden, topped a packed agenda at the SWIFT Institute cyber event at the University of Delaware.

As a part of its ongoing programme to bridge the gap between academia and the financial industry, the SWIFT Institute partnered with the University of Delaware to bring cyber security experts together to discuss the ever-evolving cyber threat in financial services. With a mix of academics, cyber technology and security experts, along with former and current U.S. federal law enforcement officers, the event provided an enlightening view of the growing trends in cyber security, highlighting new vulnerabilities and threats to watch. The event also provided a forum for academics and practitioners to share tools, technology and best practices to help financial institutions better manage and defend against threats.

“The threat is constantly advancing,” said Dr. Starnes Walker, Founding Director, Cyber Security Initiative, University of Delaware. “Technology moves exponentially as a function of time,” he elaborated. Walker welcomed the nearly 150 attendees, sharing his insights on cyber security, particularly in light of technology advancements. He pointed out that this can be good for firms on the defensive, however, technology advancements also enhance the capabilities of adversaries, which is concerning.

On behalf of the SWIFT Institute, SWIFT’s new Chief Technology Officer, Craig Young, opened the event and shared his insights on cyber security highlighting the importance of this topic to SWIFT. “At SWIFT, we take our role as the global market infrastructure for the financial industry seriously. On top of continued investments and an already strong cyber security programme, SWIFT has embarked on a multi-year cyber vigilance programme to cater to those black swans and extremely remote scenarios.” said Young. As a neutral actor serving the world’s financial institutions, SWIFT is uniquely

placed to facilitate these events as a way to help identify best practices across people, processes and technology. “Cyber security is an arms race between hackers and financial institutions with a growing number of bad actors, both politically and at the state level that attack services and capabilities, which makes it difficult for all of us”, said Young. He went on to say, “Whether we are talking about financial services or other industries, the cyber actors’ means and methods remain the same. This is a universal challenge.”

Read the full article [here](#).



**SWIFT Institute
@ Sibos**



The SWIFT Institute returns to Sibos, bringing along a new group of academics from around the world to educate and foster dialogue in Singapore. Sibos, the world's premier financial services event, takes place in Singapore from 12 - 15 October.

Throughout the week you will have the opportunity to attend lectures given by a variety of academics on a range of topics impacting the global financial industry. Each lecture will last 30 minutes, including time for Q&A. And you will have the opportunity to meet the academics after their lectures. All lectures will take place on the SWIFT stand on the Exhibition Floor.

Mark your calendar for the first ever Sibos quiz show – **A Question of Finance**, which will take place in the SWIFT Auditorium on Tuesday 13th at 4:30pm. The quiz show will see mixed teams of academics and financial industry professionals compete on their financial as well as general knowledge. Just how smart are academics and industry professionals? Come along, have some fun (and a Singapore Sling) and find out!

And finally, immediately following A Question of Finance, you are welcome to join us for a drink at the **SWIFT Institute and SWIFT's Business Intelligence cocktail reception**. This will take place in the SWIFT Auditorium beginning at 5:15pm on Tuesday 13th. All are welcome.

The full agenda and registration details are [here](#).

What topics will be discussed at Sibos by the SWIFT Institute lecturers? Read the following extract from Sibos Issues No. 2 (July 2015) below...

Learning the Lessons of the Past

New ways to think about familiar problems will be proposed by the SWIFT Institute in Singapore.

The SWIFT Institute will present a series of lectures at Sibos 2015 from leading academics and experts inspired by a Japanese proverb: 'Better than a thousand days of diligent study is one day with a great teacher'. The lectures – typically lasting 30 minutes, including Q&A – cover topics ranging from clearing and settlement in Asia to RMB internationalisation to risk management in a networked world.

The thread running through the series is that valuable insights can be gained by examining practical economic or financial issues through a rigorous theoretical framework. In his lecture 'Safeguarding financial integration', Erik Jones, professor of international political economy at the Johns Hopkins University and senior research fellow at Nuffield College, University of Oxford, considers the euro-zone crisis in terms of the preconditions for stable financial integration. Jones – who has co-written a

related SWIFT Institute working paper – draws on previous experiences of financial integration in countries including the US, UK and Canada to argue that European policy makers have focused too much managing exchange rates and macro-economic adjustments, rather than creating the institutional framework needed to support capital mobility and cross-border transactions.

In the euro-zone, this failure of policy caused severe economic difficulties in Greece, Ireland, Spain and Portugal in the aftermath of the global financial crisis, when foreign capital evaporated, leaving those countries needing huge bail-outs. Jones' analysis proposes six institutional arrangements to mitigate the forces of financial market disintegration, but admits several – such as a central system of sovereign debt management – are “hotly contested”.

Read the full article [here](#).

Did you know...



Singapore Stories

Singapore, the host to Sibos 2015, enjoys success as a thriving international financial centre located in the heart of Asia. International trade in Singapore is not, however, a new phenomenon.

Its port was renowned as far back as the late 13th century for sought-after products such as hornbill casques, lakawood and cotton. It was Sir Thomas Stamford Raffles who is credited as being the founder of *modern* Singapore in 1819. Raffles obtained permission from London to set up a settlement, but under the condition that he was not to aggravate the Dutch due to ongoing negotiations of the eventual Anglo-Dutch Treaty of 1821.

Founders do tend to receive perks (albeit belatedly), and not only was a statue of Raffles unveiled in 1887, but a colonial-style hotel of the same name opened its doors for business in the same year. Raffles Hotel soon became one of Singapore's best-known icons with famous guests including Rudyard Kipling, Ernest Hemmingway and Somerset Maugham. Raffles Hotel is famed for its Long Bar, which is famous in turn for the invention of a well-known cocktail. Developed in around 1915, Ngiam Tong Boon, a bartender hailing from Hainan, concocted a 'Gin Sling', now more commonly known as the 'Singapore Sling'.

The port in Singapore still thrives today, being the third busiest in the world (based on cargo tonnage), with Singapore also achieving the third highest per-capita GDP in the world (based on PPP). A global commerce, transportation and financial hub – Singapore has been ranked as the **Easiest place to do business** for nine consecutive years by the World Bank.



**The SWIFT
Institute**

**Building a Foundation
between Regulators and
Financial Institutions**



**Massachusetts Institute of Technology
Center for Finance and Policy**

The Next SWIFT Institute Event! New York - 3 November 2015

The SWIFT Institute is once again teaming up with SWIFT's Standards Forum to discuss how standards might play a role in helping the financial industry implement regulations. This event builds

on the conference we jointly hosted in London in March 2014. This year we are pleased to be partnering with the MIT Center for Finance and Policy.

The conference will explore areas that could result in better interactions between financial industry regulators and financial institutions. The event, to be held in New York on November 3, will bring together regulators and practitioners to focus on the gap between regulatory intent and outcomes and how standards might help to bridge that gap.

The event is free to attend, but you must register beforehand. The full agenda, speakers and registration details can be found [here](#).

[Agenda & Speakers](#)

[Register](#)

Hot Topic



Robert Kauffman,
Professor of IS,
Associate Dean
(Faculty) and
Deputy Directory
(Living Analytics
Research Centre),
Singapore
Management
University, School
of Information
Systems

Faster Money: Near Real-time Payments Systems and Australia's NPP Reality

"In today's digital world, there are demands for money to be faster than it is. You would think that the banking community would already have figured out ways to make money as fast as possible, but the reality is somewhat different." [Kauffman]

Robert J. Kauffman, co-author of [Near Real-Time Retail Payment and Settlement Systems Mechanism Design](#) and Professor of IS and Associate Dean (Faculty) at Singapore Management University's (SMU) School of Information Systems, has been giving the subject of Faster Payments much thought lately. The SWIFT Institute had the opportunity to interview both Kauffman and Chris Hamilton, CEO of the [Australian Payments Clearing Association \(APCA\)](#), to examine the factors involved in devising faster payments systems.



Chris Hamilton,
CEO & Executive
Director,
Australian
Payments Clearing
Association
(APCA)

A Hybrid Approach

Financial institutions are looking to systems for faster payments as a cost-effective means to expedite clearing and settlement of low-value retail payments. There are risk and incentive issues involved with the deferred net settlement (DNS) and real-time gross settlement (RTGS) approaches currently in use. What Kauffman's paper aims to do is work out the proper incentives via the design of a settlement system in order to make faster payments possible whilst balancing risk and benefits. Kauffman elaborated, "When it comes to RTGS and faster payments, the goal is to get everybody's incentives in harmony with one another so that one party does not feel that there is too much risk, the consumer feels they are paying money when it is appropriate, and the retailer receives the funds in real time."

Kauffman and his team at SMU, Zhiling Guo, Mei Lin and Dan Ma, looked at examples of faster payments systems from around the world and leveraged this information by proposing a hybrid faster payments settlement system that takes advantage of their best features. This hybrid system would enable banks to decide whether to prioritise a payment either to an RTGS queue or a slightly delayed DNS queue. Enabled by liquidity pooling involving financial institutions contributing to a central 'pot' of funds held by a digital settlement intermediary, this system would make payments more likely to go through the RTGS channel. This is because, for most of the time, there will be funds immediately available from the intermediary's liquidity pool to handle any shortfalls when the demand for payments settlement is high.

Read the full article [here](#).

Did you know...



Evolution of Payments: A Potted History

As economic activities have developed alongside modern-day societies, the transfer of money has also experienced quite an interesting journey.

In ancient times, monies in China developed out of straightforward bartering to the usage of cowrie shells, followed on by small bronze knives and spades in approximately 1000 BC. Evidence exists of manufactured coins being used in India, China and cities around the Aegean Sea between 700-500 BC. The use of gold as 'money' was first established by the Egyptians as far back as 4000 BC. A few thousand years later, it was the Venetian goldsmiths during the Middle Ages that started the practice of writing bills of exchange or IOUs in order to circumvent the danger posed toward merchants carrying about large crates of gold from city to city. These bills of exchange represented a buyer's commitment to make a payment against purchased goods at a specified date in the future. Cheques, also called drawn notes, were a form of a bill of exchange; the earliest known cheque still in existence was dated 16 February 1659 and drawn on the goldsmith bank account of Messrs Morris and Clayton in London. Back then, banks would keep tally of balances until they could next settle with each other. Daily settlement began in 1770 when bank clerks would meet at the Five Bells tavern in London's Lombard Street to settle the balance in cash.

The next big development in the evolution of payments was just under 200 years later in 1958 when Bank of America launched BankAmericard, the predecessor to Visa Card. The first credit card to be issued outside of the United States was in the UK in 1966 by Barclays Bank. As the advance of globalisation and innovation continued, settlement amounts dramatically increased. New electronic payment methods were developed thanks to the efficiency created by IT systems. One of the first electronic payment systems was called "Designated-Time Net Settlement" (DTNS) systems. Under the DTNS system, ingoing and outgoing payments are summed up at a particular point in time (usually at the end of the day), and then settled. More recently, the development of 'Real-time Gross Settlement' (RTGS) systems enables payments, typically high-value transactions, to be settled immediately and irrevocably. Between 1985 and 2005, implementation of RTGS systems increased from 3 to 90 central banks.

Research

New Working Papers Published

Six papers have been published in recent months and are available to download from our website:

- Bitcoin – The Miner's Dilemma
- The Scope of International Mutual Fund Outsourcing: Fees, Performance and Risks
- Prospects and Challenges of the Development of ASEAN Exchanges
- Near Real-time Retail Payment and Settlement Systems Mechanism Design
- Who will take the lead in shaping China's securitization market model?
- The Evolution of Third Party Payment Providers and Cryptocurrencies Under the EU's Upcoming PSD2 and AMLD4

New Grants Issued

- 2 grants - *Competition and Innovation in Payments*
- 2 grants - *Impact & Potential of Blockchain in Securities*

Did you know...



The name of the SWIFT Institute newsletter, Velocitates, comes from the Latin velocitas meaning swiftness, and in our case the plural therefore swiftnesses. Velocitates appeared in print in the early 1700s in the world's first scientific journal; The Philosophical Transactions published by the Royal Society of London for Improving Natural

- *Mobile Banking in Africa*
- *A 20th Anniversary Review of CREST*

Details of all issued grants can be found [here](#).

By the Numbers

30 grants issued
16 completed

Knowledge. The journal's aim was, and continues to be, to inform readers of the latest scientific discoveries. A worthy aim, and a goal the SWIFT Institute will strive to emulate.

Research Underway

Modelling the cost of financial services across countries using a Dynamic Hierarchical Bayes framework
A global perspective of women in finance
A predictive cybercrime cost model for the financial industry
Regulatory Compliance - Extraterritorial Challenge
Examination of Financial Data Collection Processes and Standards
The Influence of Virtual Currency on Fiat Currency
Multinational Banking and Conflicts among US-EU AML/CTF Compliance & Privacy Law: Operational & Political Views in Context
The Role of Big Data in Governance: A Regulatory and Legal Perspective of Analytics in Global Financial Services
Competition and Innovation in Payments Services: Regulatory and Compliance Conflict
Governance of Competition and Innovation in Payments Services
CREST: A 20th Anniversary Review
Financial Inclusion: Mobile Banking in Africa
The Impact and Potential of Blockchain on the Securities Transaction Lifecycle no. 1
The Impact and Potential of Blockchain on the Securities Transaction Lifecycle no. 2

For more details visit our web site.

Completed Research

Can mobile money be used to promote savings? Evidence from Northern Ghana
The Prospects for a Common Language in Wholesale Financial Services
Internationalisation of the RMB: New Starts, Jumps and Tipping Points
New Regulations and Collateral Requirements – Implications for the OTC Derivatives Market
Financing the SME Value Chains
A Dynamic Stochastic Network Model of the Unsecured Interbank Lending Market
Macroprudential Oversight, Risk Communication and Visualization
The Global Network of Payment Flows
Theory of Optimum Financial Areas: Retooling the Debate on the Governance of Global Finance
Cross-border Low Value Payments and Regional Integration: Enablers and Disablers
Bitcoin – The Miner's Dilemma
The Scope of International Mutual Fund Outsourcing: Fees, Performance and Risks
Prospects and Challenges of the Development of ASEAN Exchanges
Near Real-time Retail Payment and Settlement Systems Mechanism Design
Who will take the lead in shaping China's securitization market model?
The Evolution of Third Party Payment Providers and Cryptocurrencies Under the EU's Upcoming PSD2 and AMLD4

To download the working papers visit our web site.

Conferences

Every year we will host at least two conferences where we will bring together academia and the financial industry to engage in dialogue on a specific topic. Visit the [SWIFT Institute](#) regularly to find out about upcoming events.

We will be teaming up with SWIFT's Standards Forum and MIT to host an event in New York on 3 November focussing on standards and financial regulation. And of course the SWIFT Institute will be returning to Sibos, which this year takes place at the Marina Bay Sands in Singapore 12-15 October.

Future

- 12 - 15 October 2015
- **Sibos**
Venue - Marina Bay Sands, Singapore

Full details including registration available here - [Events](#).

- 3 November 2015
- **Standards & Regulation: Building a Foundation Between Regulators & FIs Partners - SWIFT's Standards Forum and the MIT Center for Finance and Policy**
Venue - 10 on the Park, New York, New York, United States of America

Full details including registration available here - [Events](#).

Coming Soon

Here is what you can look forward to from the SWIFT Institute in the months ahead...

- Sibos Singapore - *12-15 October*
- New research published - *The Role of Big Data in Governance: A Regulatory and Legal Perspective of Analytics in Global Financial Services - Q4*
- New research published - *Regulatory Compliance – The Extraterritorial Challenge - Q4*
- Building a Foundation between Regulators and Financial Institutions conference - *3 November*
- Next issue of *Velocitates – Q1 2016*

[Visit the website](#) to see what else is happening at the SWIFT Institute.

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