

P.R.I.M.E. Finance Panel of Recognized International Market Experts in Finance

The Future of FinTech



Presentation by Mark Brickell
2017 P.R.I.M.E. Finance Annual Conference
23 & 24 January, Peace Palace, The Hague





Electronic trading: 45 year trend

- ▼ 1969 Stock Market Begins to Go Electronic
 - ▼ 1969 Instinet (First electronic trading system for US Equities)
 - ▼ 1970 NASDAQ (Electronic system for small-cap US Equities)
 - ▼ 1986 London Big Bang (London Stock Exchange goes Electronic)
 - ▼ 1986 E-trade electronic stock broker
- ▼ 1992 Futures Go Electronic (Chicago Mercantile Exchange)
- ▼ 1993 Spot Foreign Currency (FX) Market Goes Electronic
 - ▼ 1993 Reuters Electronic Trading system for FX
 - ▼ 1995 EBS (Electronic Broking System) for FX
- ▼ 1999 US Government Bond Market Goes Electronic
 - ▼ 1998 eSpeed



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1. STANDARD CONTRACTS



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1. STANDARD

2. SIMPLE CREDIT RISK



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What drives electronic trading?

- Standard contracts
- Simple credit risks



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What drives electronic trading?

- Standard contracts
- Simple credit risks
- Attractive economics for suppliers



Electronic Economics

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Legacy Voice Brokers		Market Cap (USD)		Op Margin		P/E
	ICAP	0.0		16.3%		
	Tullet Prebon	0.0		11.3%		
	BGCP (Merged with GFI)	3.6		-3.7%		17.6



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Electronic Economics

30-Nov-16						
Listed Exchanges/ ECNs			Market Cap (US \$) Billion		Operating Margin	P/E
		CBOE	5.6		46.9%	29.5
		CME	38.2		61.4%	26.3
		ICE	32.7		51.4%	22.5
		MarketAxess (MKTX)	6.4		50.6%	54.3
		Market Cap Weighed P/E				27.1
		TRI (Reuters)	31.8		13.9%	25.2



Electronic Economics

Private Companies---Exit Values			
			Sale Price
	Electronic Platforms (Deal History)		\$mm
		CreditEx	625.0
		Currenex	525.0
		FXAll	625.0
		Instinet	1,200.0
		Archipelago	850.0
		eSpeed	750.0
		BrokerTec	\$700mm~
		Island ECN	\$500+
		BATS	3,200.0
		TradeWeb (60% for \$385 to Reuters)	642.0



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What drives electronic trading?

- Standard contracts
- Simple credit risks
- Attractive economics for suppliers
- Digitization of related services



What drives electronic trading? Electronic straight through processing.

- Pre-trade credit check
- Execution
- Transmit trade record internally
- Transmit identical trade record to counterparty...
- ...and to CCPs and Swaps Data Repositories



What drives electronic trading?

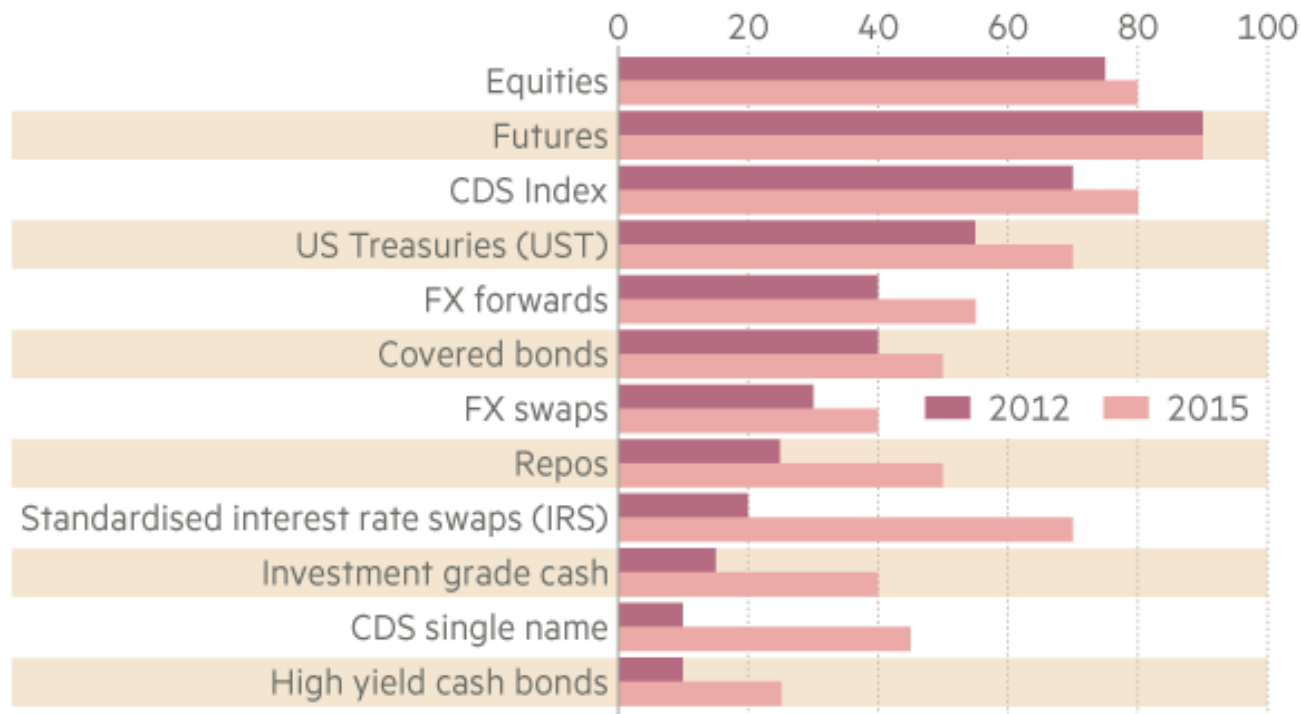
- Standard contracts
- Simple credit risks
- Attractive economics for suppliers
- Digitization of related services
- Regulation



Increasingly Digital Off Exchange Market

Growing electronification of off-exchange market

E-trading in selected asset classes (%)



Source: GreySpark Partners



FT

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What impedes electronic trading?

- Resistance to disruptive innovation



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What impedes electronic trading?

- Resistance to disruptive innovation
- High up-front costs
- Regulations make up front costs even higher



What impedes electronic trading?

- Resistance to disruptive innovation
- High up-front costs
- Regulations make up front costs even higher
- That adds to market power



UNITED STATES DISTRICT COURT

SOUTHERN DISTRICT OF NEW YORK

COMPLAINT

DEMAND FOR JURY TRIAL

- CHICAGO PUBLIC SCHOOL TEACHERS PENSION AND RETIREMENT FUND,
- Plaintiffs, :
- -against- :
- BANK OF AMERICA CORPORATION; BANK OF : AMERICA, N.A.; MERRILL LYNCH, PIERCE, : FENNER & SMITH INCORPORATED; BARCLAYS : PLC; BARCLAYS BANK PLC; BARCLAYS : CAPITAL INC.; BNP PARIBAS, S.A.; BNP PARIBAS : SECURITIES CORP.; CITIGROUP, INC.; CITIBANK : N.A.; CITIGROUP GLOBAL MARKETS INC.; : CITIGROUP GLOBAL MARKETS LIMITED; : CREDIT SUISSE AG; CREDIT SUISSE GROUP AG; : CREDIT SUISSE SECURITIES (USA) LLC; CREDIT : SUISSE INTERNATIONAL; DEUTSCHE BANK AG; : DEUTSCHE BANK SECURITIES INC.; THE : GOLDMAN SACHS GROUP, INC.; GOLDMAN, : SACHS & CO.; GOLDMAN SACHS BANK USA; : GOLDMAN SACHS FINANCIAL MARKETS, L.P.; : GOLDMAN SACHS INTERNATIONAL; HSBC : BANK PLC; HSBC BANK USA, N.A.; HSBC : SECURITIES (USA) INC.; ICAP CAPITAL : MARKETS LLC; J.P. MORGAN CHASE & CO.; J.P. : MORGAN CHASE BANK, N.A.; J.P. MORGAN : SECURITIES LLC; J.P. MORGAN SECURITIES PLC; : MORGAN STANLEY; MORGAN STANLEY BANK, : N.A.; MORGAN STANLEY & CO. LLC; MORGAN : STANLEY CAPITAL SERVICES LLC; MORGAN : STANLEY DERIVATIVE PRODUCTS INC.; : MORGAN STANLEY & CO. INTERNATIONAL : PLC; MORGAN STANLEY BANK : INTERNATIONAL LIMITED; THE ROYAL BANK : OF SCOTLAND GROUP PLC; ROYAL BANK OF : SCOTLAND PLC; RBS SECURITIES INC.; : TRADEWEB MARKETS LLC; UBS AG; and UBS : SECURITIES LLC, :
- Defendants. : x
- Index No. 16 Civ. 3542



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Evolving Benefits of FinTech

- Better transaction processing (STP)
- Better distribution of information (Bloomberg, QUICK)
- Better collection of information by Networks, and better use of information (NEST example)



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Who uses the Data?

- OFR's mission is to shine a light in the dark corners of the financial system to see where risks are going, assess how much of a threat they might pose,
- OFR has partnered with the National Science Foundation to support Big Data financial-stability research, policymaking, and decision-making...The research will help support a more transparent, efficient, and stable financial system.



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Electronic Economics

Listed Companies		Market Cap (USD) \$ Billion	Operating Margin	P/E		Revenue		Date Started	Age (Years)
Exchanges									
	CBOE	\$5.59	46.88%	29.53		\$638		1973	43
	CME	\$38.24	61.35%	26.27		\$3,500		1898	118
	ICE	\$32.67	51.42%	22.47		\$4,240		2000	16
ECNs / Electronic Platforms									
	MarketAxess (MKTX)	\$6.35	50.62%	54.33		\$352		2000	16
	Market Cap Weighed P/E			0.00					
	TRI (Reuters)	\$31.82	13.87%	25.20		\$12,150		1851	165
						Examples of Successful Electronic Trading Systems and their Exit Values			
Private		Sale Price		Date				Date	Years
Electronic Platforms (Deal History)		\$mm		Acquired		Purchaser	Traded	Started	Till Exit
	CreditEx	\$625		2008		ICE	CDS	1999	9
	Currenex	\$525		2006		State Street	Currencies	1999	7
	FXAll	\$625		2012		Thompson/Reuters	Currencies	2000	12
	Instinet	\$1,200		2007		Silver Lake Partners	US Equities	1969	38
	Archipelago	\$850		2005		NYSE	US Equities	1997	8
	eSpeed	\$750		2013		NASDAQ	US Govt Sec	1996	17
	BrokerTec	\$700mm~		2003		ICAP	US Govt Sec	1999	4
	Island ECN	\$500+		2002		Instinet	US Equities	2000	2
	BATS	\$3,200		2016		CBOE	US Equities / FX	2005	11
	TradeWeb (60% for \$385 to Reuters)	\$642		2004		Thompson/Reuters	Swaps/Bonds	1998	6
	*Tradeweb Possible 2017	+\$8.0~		2017		Thompson/Reuters	Swaps/Bonds		
Legacy Voice Brokers		Market Cap (USD)		P/E					Age
	ICAP (IAP.L)	\$-	16.26%			\$-	Merging with Tullett Prebon	1986	30
	Tullett Prebon (TLPR.L)	\$-	11.25%			\$-		1971	45
	BGCP (Merged with GFI)	\$3.64	-3.66%	17.62		\$2,550	Merged with GFI Group	1945	71



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