



The data dilemma: a risk or an asset?

10 November 2017 The Westin Zagreb Hotel Zagreb, Croatia Data and control – risks and possibilities in the financial domain

Tove Engvall (Mid Sweden University)

Data as a strategic asset for central banks policies **Per Nymand** (ECB)

Does more data make better economic policy? A view from HM Treasury, the UK's economics and finance ministry

Mario Pisani (HM Treasury) & **Jan Booth** (DEFRA – former HM Treasury)

The 'Big Data Revolution' in banking and financial history. Some French experiments.

Angelo Riva (Paris School of Economics)

Secure long-term preservation of banking and financial records

Djordje Hinic (Piql AS)

Privacy, confidentiality, security and consumer protection

Kertész Ákos (Central Bank of Hungary)

What happened in the Daily Gold Fixings Auctions: 1919-1968 - The missing data

Fergal O'Connor (University of York)

A tale of rain and bank runs. From small to big data and back

Anton Comanescu (National Bank of Romania)

Calling all archivists - the five grand challenges of the digital environment

Michael Moss (Northumbria University)



The data dilemma: who is in control?

Tove Engvall, Mid Sweden University, eabh workshop

2017-11-10, Zagreb

Mittuniversitetet



"The data dilemma: a risk or an asset?"

- The amount of data about the finance sector is growing exponentially and storing it is becoming easier. Businesses are excited about the commercial possibilities of 'Big Data'; academics are relishing the research potential of deep data archives and regulators are hoping for a fuller view of systemic risk and stability.
- Will it all turn out well though? The current reality of massive data stores is often no more than massive cost and complexity. The workshop will explore how we got here with data and where we go next. Ultimately, can a meeting of business, academics and regulators resolve the data dilemma and find a way to turn a risk into an asset?



• ???



Challenge of departure

Digitalization challenge traditional institutional practices of accountability and citizens rights, with risks at a wider scale and higher speed

The online environment make it easy to perform fraudulent activities, cyber crime is growing, and escape in the online environment is quite easy. Individuals and businesses are vulnerable. Who can be trusted?

Can Big Data analysis be a way to meet these challenges?



Mittuniversitetet



Challenge of departure

- Lack of control was part of the reason for the financial crisis 2008 (internal governance, insufficient records management, liberalized regulation & market patterns) (Coleman, Lemieux, Stone & Yeo, 2011).
- Records provide evidence of activities.
 Much information are in hte form of data.
 Challenges to ensure trustworthiness, long-term preservation and usability
- New regulation of the financial market (MiFID2 & MiFIR) requires of financial firms to provide transaction data.

Can this be a way to manage risks and market abuse?





Research objective & Method

 As digitalization challenge traditional institutional structures for accountability, what are the possible use of Big Data?

What means for democratic control can it be, and what risks are there with increased means for control?

Method

- Literature
- Semistructured interviews; the European Systemic Risk Board National Financial Supervisory Authorities in 3 EU countries National Company Registration Office



Literature

- Big data, data mining, machine learning and Visual Analytics
- Computational Archival Science
- eDiscovery and Digital Records Forensic



Mittuniversitetet



Big data, data mining, machine learning & VA

- **Big data:** Big volume, variety and velocity, which requires more than commonly used tools to capture, manage and analyse the data (Lemieux, Gormly, Rowledge, 2014)
- **Data mining:** automated extraction of useful information from data, seeking regularities and patterns (Witten, Frank, Hall & Pal, 2017)
- **Machine learning:** computers ability to answer questions, can also include prediction for decision making (Witten, Frank, Hall & Pal, 2017)

"the capacity of computers to learn without being explicitly programmed" (Humphries, 2017)

• Visual Analytics (VA): Combines computational capabilities with graphical representations and interactive analysis



Key findings

- Data mining techniques can be used to extract useful information from data & recognize patterns
- Cyber security, fraud detection, tax evation, credit assessments, prediction of bankruptcy, financial market monitoring, risk management, facilitate informed decisions
- Challenges of quality, interpretation, management and heterogeneity of data
- Monitoring systems; address the entirety, frequent change, interrelations and unpredictable behaviors. Both economic and behavioral analysis.
- Data is biased, risk for discrimination
- Transparency





CAS (Computational Archival Science)

- Long-term preservation, quality, trustworthiness, means for analysis and interpretation
- Transdiscipline; Computational Archival Science Computer processing techniques for data management Archival methods to ensure authenticity & reliability and long term preservation Ethical, security and privacy issues and organizational and societal concerns Conceptual knowledge field
- Different machine learning techniques can/have been used in the archival field classification & disposal, arrangement & description, search facilities
- Mindset



eDiscovery & Digital Records Forensics

- Readiness for risk, as well as to facilitate investigations
- Cybercrime increases, fraud is common, Western Europe second worst (PwC, Global Economic Crime Survey 2016)
- Big data analytics can be useful, Important is also: valuebased organizational culture, ethical alignment of decision making, governance etc
- Big Data can be useful in police work, but risks of discrimination. Advanced technologies are also used by criminals
- <u>Digital Records Forensic</u>; combine archival knowledge and means for authenticity of records with digital forensics methods and concepts.
 Means for investigation of digital material, as well as proactive design







Interviews - ESRB



- the European Systemic Risk Board
- "oversee the financial system of the European Union (EU) and prevent and mitigate systemic risk" (ESRB, 2017).
- Collaborate with ESMA (European Securities and Markets Authority) which works for protection of investors and to promote stability of EU financial markets, avoid market abuse and market manipulation
- EMIR & AIFMD datasets will be analysed with Big Data tools EMIR: data about transactions in derivative markets AIFMD: regulation of speculative funds. Market operations
- Not anymore a black box
- Concerns of data quality, completeness of data & correction of bad reporting



Interviews – National Financial Supervisory Authority

Authority country A: detect violations of regulations
 Use Big Data analytics for transaction data and other purposes.
 Maybe they will use machine learning

Challenges: System performance, developments at the market, complex information management

• Authority country B: detect and prevent market abuse, manipulation and crime, properly working market.

Investments in data accuracy

New regulations (MiFID2 & MiFIR) will provide more data, which they will keep up to 15 years <u>Challenges</u>: trustworthy long term preservation and management of data, several old databases

Tools: data mining for different analysis and alerts

 Authority country C: focus on banking sector Banks provide big volumes of data that is analysed related to indicators, Identification of risks Different validation steps Follow trends



Interviews – National Company Registration Office

- Registration of companies and annual reports
- Electronic reporting and standardized format (ixbrl) will improve transparency and control, and enable exchange of information.
- Fundamental data and annual report data possibilities for Big Data analysis
 Would make it more difficult for criminals
- Look at possibilities to increase control of the accuracy of reports, to prevent crime
- Possibilities for more accurate credit scoring & lower interest rate.
- Improved means for analysis. Suspicious activities and risks can be detected earlier & increased transparency to the public
- Exchange of information between public authorities can improve crime prevention Important to consider risks

Mittuniversitetet



Reflections

- Big data analysis can increase democratic control, accountability, crime prevention, risk management and more.
- Collaboration can improve information management and promote transparency
- New EU-regulation will improve means for Big Data analysis, but also challenges in management of data

Challenges

- Fast technological development
- Capture, management, quality, control and longterm preservation of data
- Democratic innovation & implementation of regulations
- Actors outside regulation



Discussion

Ethical considerations:

- Surveillance, concentration of power, control, privacy and vulnerabilities,
- Algorithmic discrimination, AI society, propaganda, values & intentions?

Possible further research:

- Implementation of MiFID2 & MiFIR,
- CAS & eDiscovery,
- means for user assessment of authenticity,
- further interviews with stakeholders,
- trustworthiness online

Mittuniversitetet

Contact: Tove engvall@miun.se What else is possible?







Per Nymand-Andersen Adviser, European Central Bank

Data: A strategic asset for central banks policies



eabh - Data dilemma workshop

Westin Zagreb Hotel, Croatia 10 Nov. 2017

"Progress lies not in enhancing what is, but in advancing towards what will be" (Khalin Gibran)



Ref.: **"Big data: The hunt for timely insights and decision certainty - Central banking reflections on the use of big data for policy purposes**, IFC working Paper No 14, 2016, Per Nymand-Andersen

Disclaimer: The opinions expressed in this presentation are not necessarily those of the European Central Bank (ECB) or the European System of Central Banks (ESCB)

Pretty Big Data – 5 Vs (Value → knowledge)

As of 201, the global size of By 2014, it's anticipated. data in healthcare was there will be It's estimated that **40 ZETTABYTES** estimated to be 2.5 QUINTILLION BYTES The 120 MILLION 1-45/TRILLION-ExcARVIES | 150 EXABYTES **WEARABLE, WIRELESS** 23 TRILLION BIGANYTES of data will be created by 2020, an increase of 300 TEL BILLION BIBLIENTES of data are created each day HEALTH MONITORS times from 2005 FOUR V's 4 BILLION+ HOURS OF VIDEO of Big Variety are watched on Volume 6 BILLION YouTube each month PEOPLE DIFFERENT have cell SCALE OF DATA Data phones (FORMS OF DATA 30 BILLION PIECES OF CONTENT are shared on Facebook every month Most companies in the ann services that the world relies on every day. IOD MILLION TWEETS U.S. have at least 10.0 are sent per day by about 200 **00 TERABYTES** million monthly active users (OF COL GIGARYTER) WORLD POPULATION: 7 BILLION of data stored break big cata into four dimensions: Volume, Velocity, Variety and Veracity Modern cars have close to The New York Stock Exchange Poor data quality costs the US **1 IN 3 BUSINESS** 100 SENSORS captures economy around LEADERS internal and external so increation as transactions. **53.1 TRILLION & YEAR 1 TB OF TRADE** that monitor items such as don't trust the information uel level and the pressure. INFORMATION they use to make decisions during each trading session Velocity Veracity 27% DF RESPONDENTS ANALYSIS OF **4.4 MILLION IT JOBS** UNCERTAINTY STREAMING DATA **OF DATA** By 2016, it is prejected in one survey were unsure of there will be how much of their data was inaccurate **18.9 BILLION** NETWORK CONNECTIONS - almost 2.5 connections per person on earth

Sources: McKirsey Global methods. Twitter, Ciaco, Gatter: ENC, SAS, BM, MEPTEC, CAS

3

IBM.

ECB-UNRESTRICTED

Data never sleeps – Challenges for historians





Digital exploration

- Storage capacity
- Linking data sets
- Accessing
- Perform querying
- Slice & Dice sources across time and datasets

Fit for the future

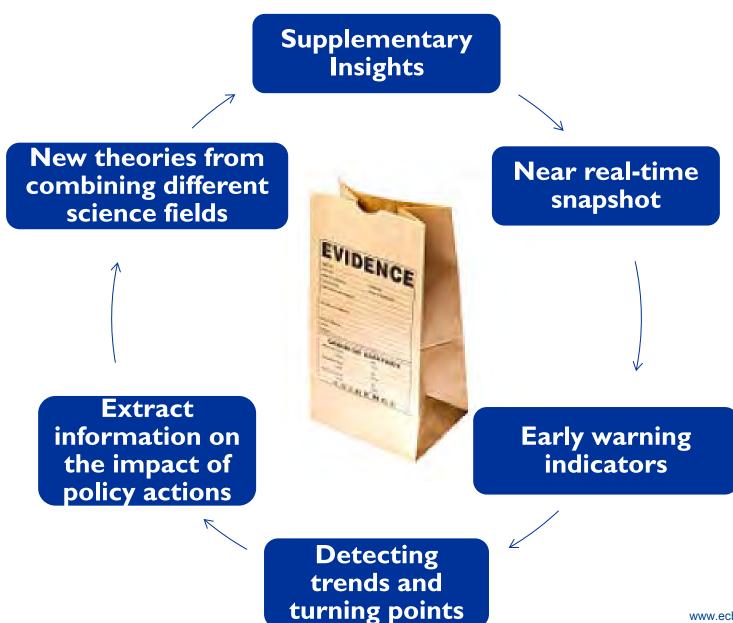
Which preparations are needed today to have the capacity and functionality needed in 10 years time?

- Managing and exploring datasets
- Linking current and past datasets
- Querying variety of formats

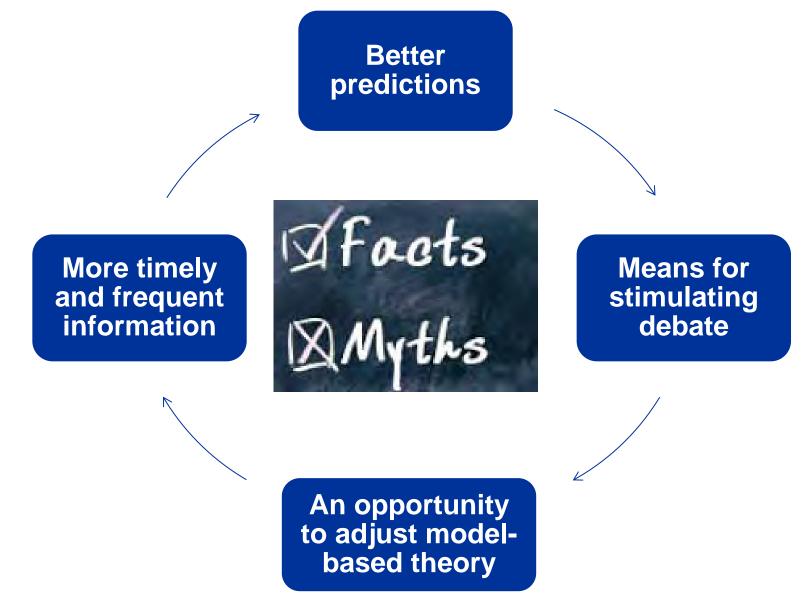
<u>Source: Cumulus Media,</u>

http://www.businessinsider.de/everything-that-happens-in-one-minute-on-the-internet-2017-9?r=US&IR=T

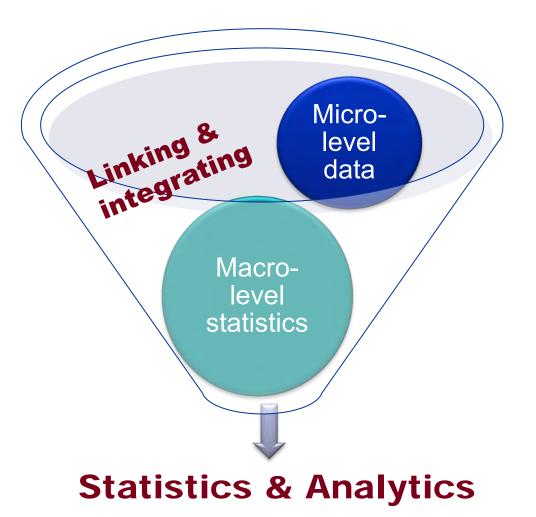
Reflections for central banking policy purposes ECB-UNRESTRICTED



Reflections for central banking policy purposes ECB-UNRESTRICTED



Paradigm shift - Moving to micro level/granular data



Micro-level statistics

- Security-by-security statistics
- Holdings of individual securities
- Money market transactions (MMSR)
- Loans by loans register (Ana Credit)
- Register of Financial Institutions
- Individual bank supervisory data

Macro-level statistics

- Balance sheet statistics
- Monetary aggregates (MI M3)
- Securities issues
- Banks interest rates
- Government finance
- Euro area financial accounts

New challenges - Micro-level data (5th "V"!)

Systematic approach for sustainable provision of statistics

Semantics and standardisation

- Definition and methodology
- Data Dictionary & data Model
- Standardisation of identifiers
- Mapping and linking datasets

Quality & streamlined IT

- Flexible reception and data views
- Linking internal & external data-sets
- **Data Quality** (automatic machine readable checks & probabilities)
- Managing data cubes

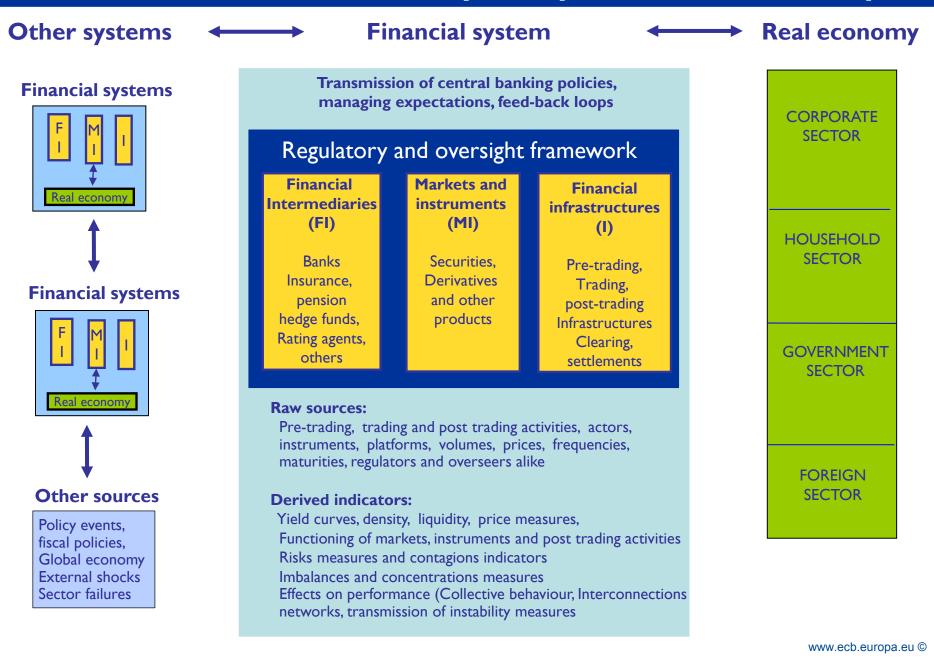
Statistics analysis

- Slice & dice micro-data
- Data Discovery and summary statistics
- Data science
- Statistics and analytical capacities

Communication outreach

- Visualisation & Presentations
- Communication
- Explainers
- Outreach to frequent users

Data sources for Monetary Policy & Financial Stability



Data mania versus phobia – a paradigm of records

BLOCK CHAIN

Ð



E- trade



Settlement systems



Credit cards

•Fintech

•D-coins

•DLT



Mobile trans



Lending & financing



Big data







S- media



Systematic acquire, **Process, summarize**



Data lab



Statistical algorithm and data explorations

Packaging data for **Insights & business**



3 remarks on Big Data analytics

I. One <u>misperception</u> of big data is that we **do not need** to worry about sample bias and representativeness, as large volumes of information supersede standard sampling theory, since big data provide census-type information



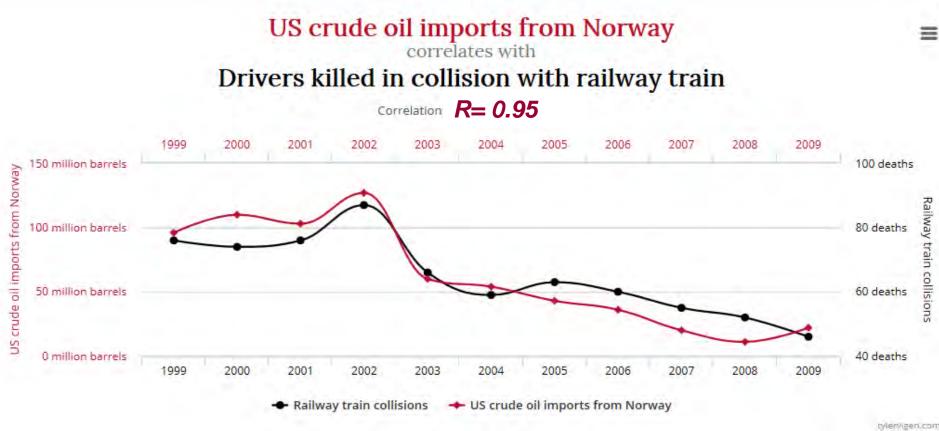
Studies done on Corporate, consumer, household analysis & indexing, text mining, pulse of the economy, consumer emotions, stock market correlations.

- □ Access to all tweets *means access* to the characteristics of the "tweeting" population, which may differ from those people/corporates who do not tweet
- □ Not all groups are represented. 21% of online adults use Twitter, varies according to age, gender, income, education, ethnic origin and country;
- □ Tweets vs unit measurement, double counting (tweeting and re-tweeting), over-representativeness, statistical corrections are needed
- □ An event driven source volume changes do not necessary refer to reporting units nor to changes in demand

3 remarks on Big Data analytics

2. Correlation is not (necessary) causation

No conclusion can be drawn simply on the basis of correlations between two variables. The similarity is a coincidence. We say that there is no causation





"The invalid assumption that correlation implies cause is probably among the two or three most serious and common errors of human reasoning" **Stephen Jay Gould, American evolutionary biologist and author, 1981**

3 remarks on Big Data analytics

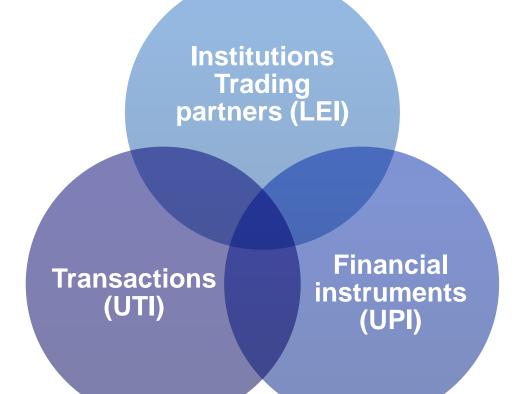
3. Any source is subject to statistical quality standards



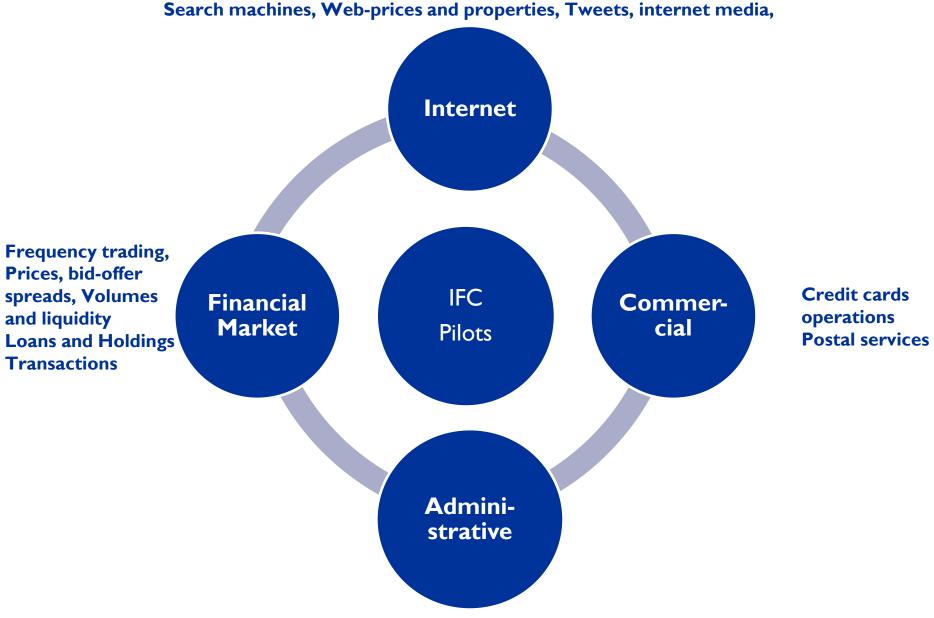
www.ecb.europa.eu ©

The call for standardisation on Big Data

- > Big data is mainly a *by-product* and not the **core business** of the sources
- > Standardisation is a pre-condition for managing & combining large datasets
- > Pre-trading, trading and post trading activities ISO20022 and SEPA
- > Money Market Reporting & Banks' loans to corporates and households



49 Central banks collaborating - The Irving Fisher Committee



Fiscal, trade and corporate balance sheet data

Collaboration and partnership

ECB-UNRESTRICTED

Five take!



Thank you for your attention ?? Any questions?

Annex: ECB Paper Series as an outlet for big data research

> An outlet for big data research:

• "Nowcasting GDP with electronic payments data" by Galbraith J & Tkacz G.

- Electronic payment transactions can be used in nowcasting current gross domestic product growth
- finds that debit card transactions contribute most to forecast accuracy

• "Social media sentiment and consumer confidence" by Daas P & Puts M

- Relationships between the changes in consumer confidence and Dutch public social media?
- Could be used as an indicator for changes in consumer confidence and as an early indicator

• "Quantifying the effects of online bullishness on international financial markets" by Mao H & Counts S, Bollen J.

- Develops a measure of investor sentiment based on Twitter and Google search queries
- Twitter and Google bullishness are positively correlated to investor sentiment



Data and economic policy in the UK: opportunities and challenges

Mario Pisani Deputy Director, Fiscal Group

10 November 2017

Section 1: quick overview of HM Treasury

Section 2: understanding the economy

Section 3: policy-making process

Section 4: challenges

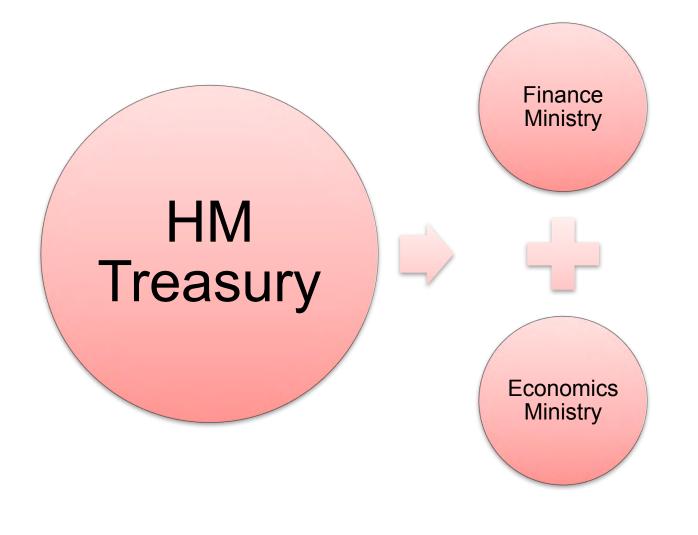


Her Majesty's Treasury is one of the oldest government departments in the United Kingdom





In the UK, the Treasury is both the finance ministry and the economics ministry



- Spending control
- Tax policies
- Accounting standards across the public sector
- etc

- Macroeconomic policies
- Productivity and growth policies
- Financial stability and financial services

Section 1: quick overview of HM Treasury

Section 2: understanding the economy

Section 3: policy-making process

Section 4: challenges



2016: HM Treasury commissions Professor Charlie Bean to do independent review of economic stats





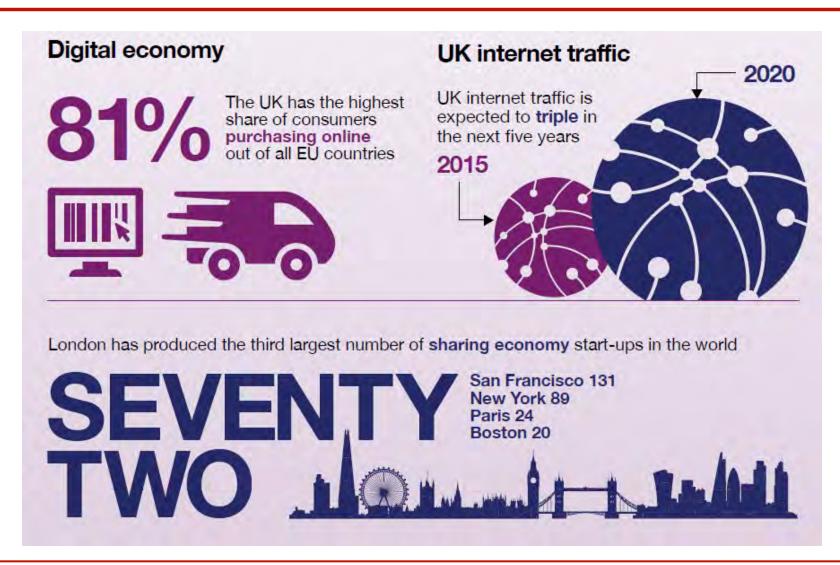
Review of UK Economic Statistics

Spotify

WhatsApp

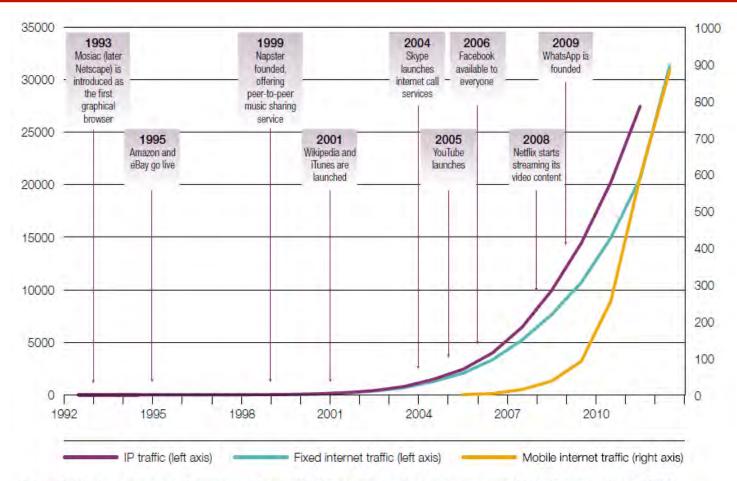
amazonco

Digital revolution means the economy is changing fast – policy-makers need to understand this





We've seen a very rapid increase in online activity – this and other digital processes create data



Notes: Petabytes per month. Aggregating from multiple sources and applying usage and bitrate assumptions, Cisco Systems, a major network systems company, has published the following historical Internet Protocol (IP) and internet traffic figures.

Source: Wikipedia.



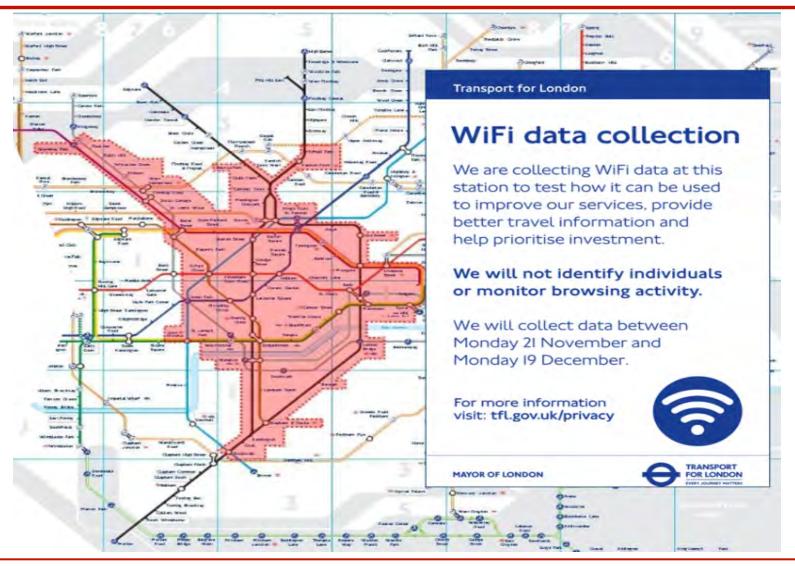


1939: there has always been an interest in using data to understand patterns of economic activity...

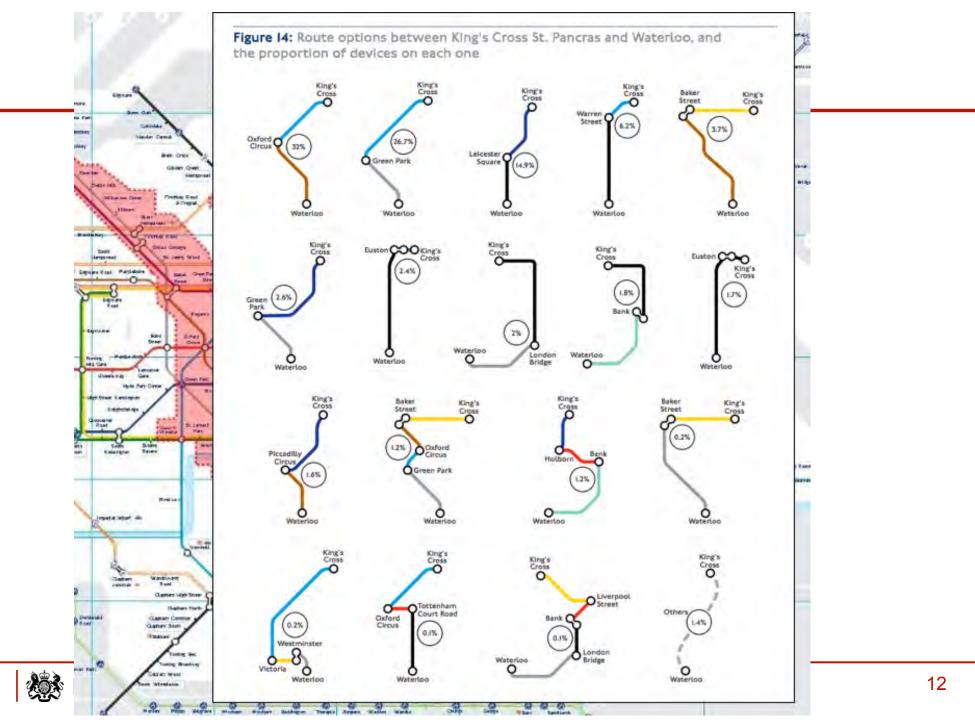




... now there is more data, which allows quicker and more precise analysis of economic behaviour







Government itself sits on lots of administrative data which can help us measure the economy

Businesses sampled by the Annual Business Survey

The HMRC VAT database has information for



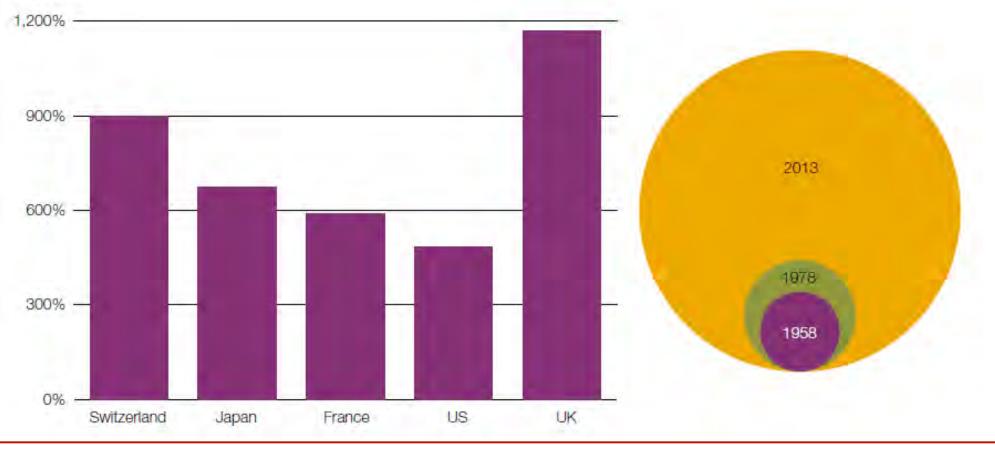
Employees sampled as part of wages and salaries survey: 9,000

Income tax records on HMRC pay-as-you-earn system: 1.5 million

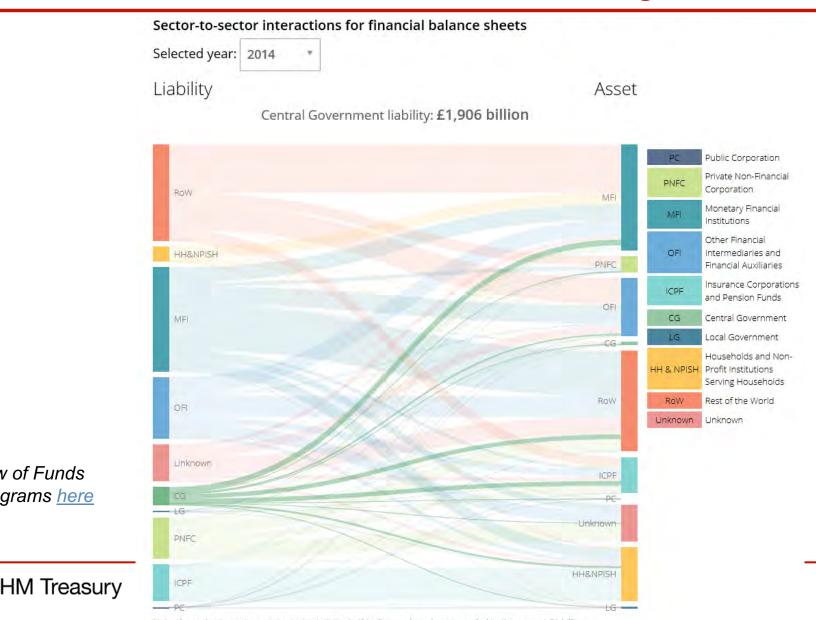


The UK has a very large financial system – its regulation and supervision also generates data

Size of the financial system as a % of GDP



At the moment our understanding of financial flows is limited to sectors and subsectors only

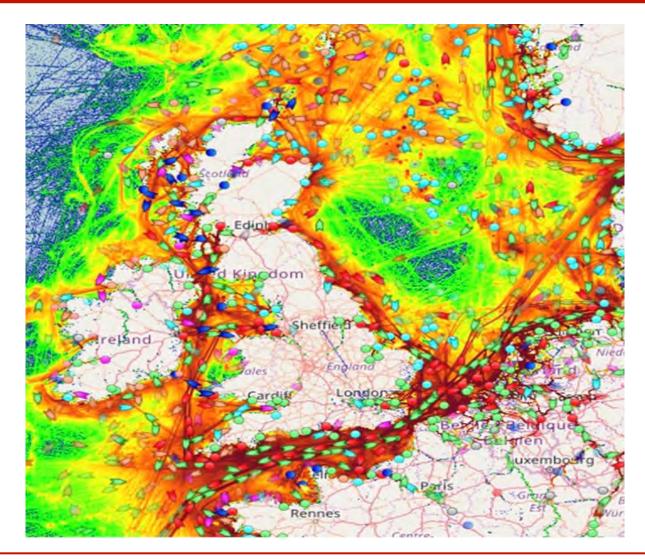


Link to Flow of Funds Sankey diagrams here and here

Lots of useful data outside the public sector – for example web scraping and scanner data for prices



Can shipping and ports data provide a better estimate of international trade flows?





Section summary - more data is an opportunity for improving our understanding of the economy



Increased used of administrative and alternative data sources could:

- Improve timeliness and allow us to obtain information about the economy quicker = FASTER
- Greater sample sizes could improve granularity and accuracy of economic statistics = BETTER
- Reduce the need for expensive surveys and sampling = CHEAPER

Section 1: quick overview of HM Treasury

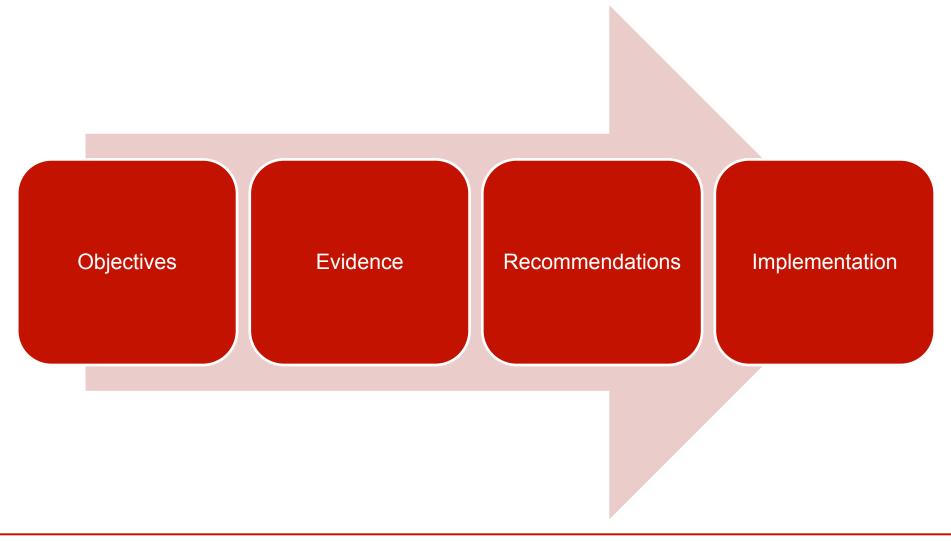
Section 2: understanding the economy

Section 3: policy-making process

Section 4: challenges



The traditional approach to policy development



New data and data sources have made viable a range of different approaches to policy-making

Acting	
Challenge setting	
Challenge panels	
Change cards	
Crowdsourcing	
Data and social media analysis	
Data tool cards	
Guerrilla Testing	
Hope and fear cards	
Interviews	
Journey mapping	
Evidence safari	
Personas	
Open Data	
An introduction to prototyping	
Prototyping in a workshop: Tabletop prototyping	

Touchpint prototyping

Some examples:

Social media engagement

Crowdsourcing

Open data

User consultation

Example 1: HM Treasury crowd-sourcing ideas for efficiencies in public spending

Policy paper Public Sector Efficiency Challenge summary of responses and results

Published 25 November 2015

Contents

- 1. Who participated in the survey?
- 2. What were the most common suggestions for change?
- 3. Which ideas have departments decided to take forward?
- 4. What will happen to the remaining ideas?

In August 2015 the Chancellor and Chief Secretary wrote to all public sector workers asking for their ideas on how the government could do more for less. The Spending Review and Autumn Statement 2015 announces the results of the exercise.

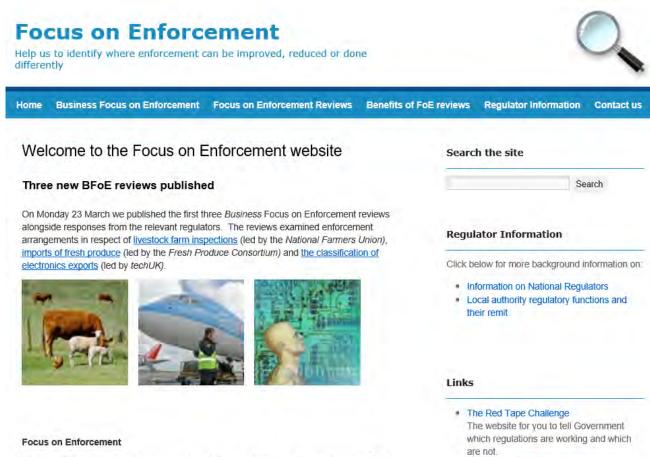
1. Who participated in the survey?

Just over 22,000 suggestions were submitted as part of the challenge, from a wide range of organisations in the public sector:

- 5,000 who work in healthcare and the NHS
- 3,200 who work in local government
- 2,500 who work in education and schools
- 1,400 who work in defence and the military
- 1,300 from those who work in policing

The remainder were submitted by civil servants, including those working in agencies and public bodies, such as Jobcentre Plus.

Example 2: engaging with businesses to understand how to change or improve regulation



- Better Regulation Executive More on the Government's Better Regulation Strategy
- Scotland: Give us your view

We know ill thought out and unnecessary regulations cost business time and money. So the Government is tackling this through the Red Tape Challenge.

But sometimes the regulation itself is fine – it is inconsistent or inappropriate enforcement that causes problems or could just be so much better.

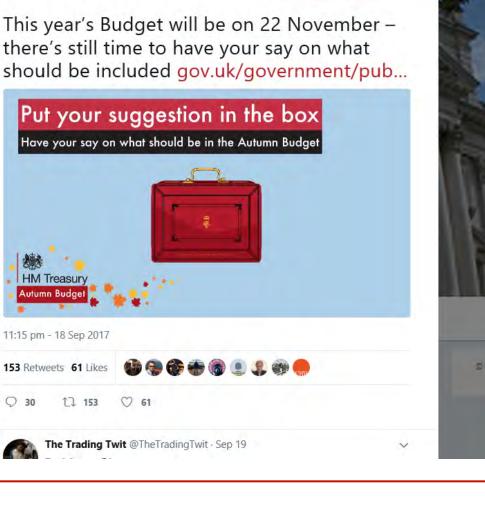
Example 3: HM Treasury using social media to engage with citizens about the upcoming budget

HM Treasury

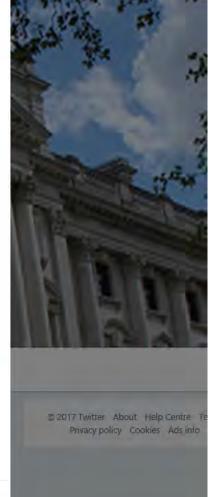
@hmtreasurv



M Treasury



Follow



Section summary: new technology means the policy-making process itself generates new data

Alternative approaches to policy-making have the potential to:

- Make it easier to obtain feedback direct from users and those affected by policy changes
- Harness the creativity and insight of a wider group of people, and exploit a range of experiences and approaches

These approaches can both generate new data and facilitate the analysis of data



Section 1: quick overview of HM Treasury

Section 2: understanding the economy

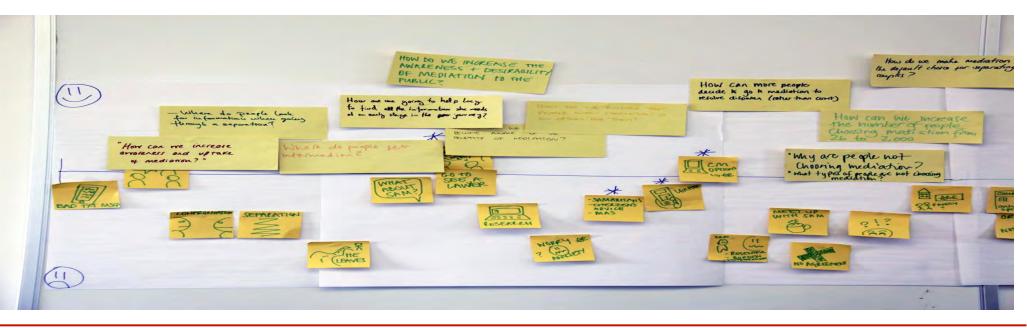
Section 3: the policy-making process

Section 4: challenges



Some examples of challenges with data (there are likely many others...)

- Volume: too much data deciding what to ignore
- Access: different data cannot be matched due to limited access
- Costs: cost of managing and analysing data can be very high
- Continuity: some data sources may be discontinued



Charlie Bean Review into big data and economic statistics

ONS article on flow of funds

- Open policy-making
- Public spending challenge

Mario.Pisani@hmtreasury.gsi.gov.uk





HM Treasury's information archives

A really great story that's really hard to tell

Jan Booth (DEFRA – former HM Treasury)





Treasury information (my type of 'data')

TYPES	THEMES	WHERE'S THE STUFF?
 Ministers' files Policy files Budget records Secondary sources (stats, reports, analyses) 	 Domestic economy Institutions Tax and spending Shocks and crises 	 Core series up to 1990 - National Archives 1990-1998 paper files 1998 on electronic records

......

Treasury people

Organisational boundary

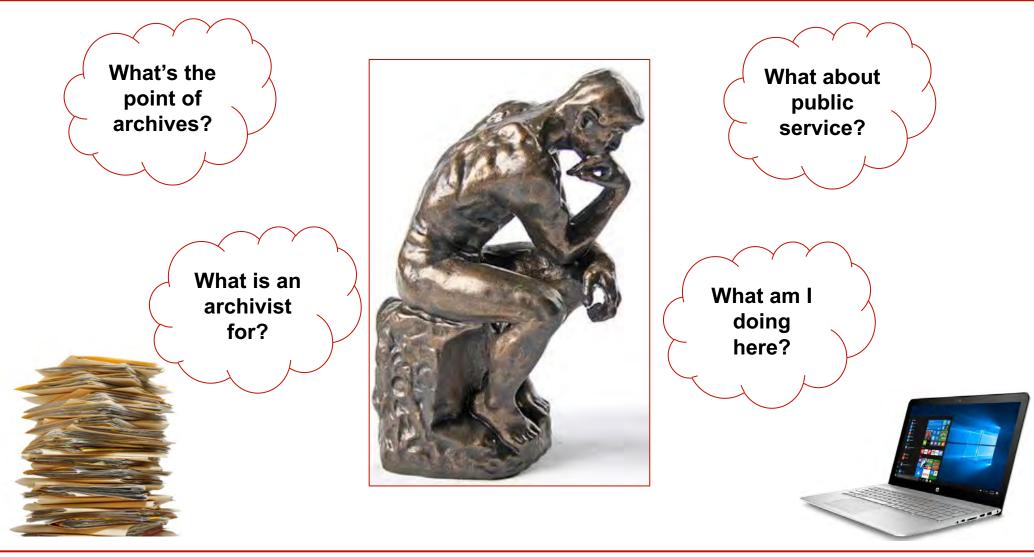
Professional analysts

Academics

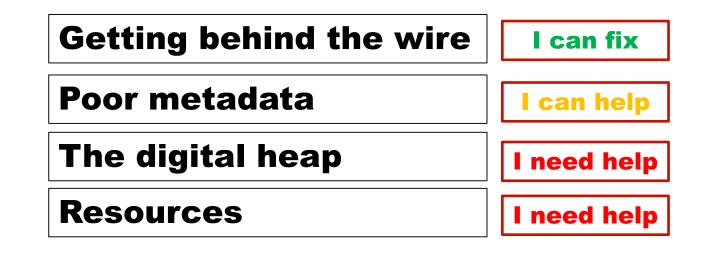




My existential crisis













Some questions...





The 'Big Data Revolution' in banking and financial history. Some French experiments.

Angelo Riva European Business School-Paris & Paris School of Economics

Data dilemma: risk or asset?

- "The current reality of massive data stores is often no more than a massive cost and complexity": Yes
- "Academics are relishing the research potential of deep data archives and regulators are hoping for a fuller view of systemic risk and stability": should we give up?

– Maybe...

No. Why not?

- If growth is to be strong and spread fairly, the EU needs a sound, academic evidence base with data about the longrun performance of European finance
 - History is a boundless laboratory for real-size natural experiments
 - The weak empirical foundations of the models used to analyze structural and cyclical changes have become obvious (crises... what ?)
- Crucial historical understanding of our society remains totally inadequate, because we lack the requisite empirical basis
- The EU Strategy Report on Research identifies Big Data in the social sciences and the humanities as the first science driver for these fields.

Innovation

- Investing time and money in developing new technologies to capture and connect FAIR data
 - Findable, Accessible, Interoperable and Re-usable => High quality data
 - Reading writings, not just getting numbers ... to understand the numbers
- Some French Experiments at the Paris School of Economics



Données Financières Historiques

- Project designed to develop a comprehensive database on the French stock markets since 1796, to be extended to other kinds of data.
- Fortnightly spot, forward, options prices of all the assets listed from 1796 to 1976 on the Paris stock market
 - Assets: securities (stock and bonds, French and foreign, private and public), gold and silver materials (bullions, various coins), exchange rates, bills of exchange...
 - 1 asset => several prices per day
- Securities events:
 - coupons/dividends; new issues, split, reverse split, M&A..
- Data on issuers:
 - Juridical statutes from the foundation (dates)
 - Equity capital and subsequent issues of bonds/short terms notes
 - Localization of headquarters and factories
 - Balance sheets
 - Administrators
 - Governance (distribution of profit, specific rules)



- Collecting balansheets of all French banks from archival sources to study French banks failures in the Great Depression.
- Main source: Crédit Lyonnais (CL)'s collection of banks balance sheets (about 450 banks from 1910 to 1938): The "Album".
- The 'Album' was built by the Economic & Financial Research Dpt of the Crédit Lyonnais, whose archives have already been used extensively by historians
- Hitherto unseen material
- Full digitization. Connect the Album with other sources.
- Other sources from Crédit Lyonnais and Bank of France, on the number and causes of bankruptcies



Collecting data from deeds of parterships of Parisian bankers and partners (1783-1913)

- map of financial operators in Paris and of their partners around the world
- data on their social and professional characters
- GIS "Old Paris" at the Ecole des hautes Etudes en Sciences Sociales

Cooperation with archivists

- Archives... where all of it began
- Paris Stock Exchange sources at the Centre des Archives Economiques et Financières (CAEF)
 - Archives' organizational setting to host (many) RAs
 Partnership to scan sources
- Deeds of bankers at the Archives de Paris
 Facilities for RAs and sources digitalization
- Archives of the Crédit Agricole for SYSRI-30
 - Locating and scanning « The Album »



Pascal Penot, Crédit Agricole

Watch the video at https://www.youtube.com/watch?v=AMcqSvZlvOE



Données Financières Historiques

DFIH Sources

- Two main (serial) sources:
 - Lists of the exchanges
 - Yearbooks of the exchanges
- Additional sources
 - Additional printed sources (from exchanges, from other bodies)
 - Archives

Paris Stock Exchange Official Lists

1000 ASE DE PARIS.	100 COURS	AUTHENTIQUE	BOURSE DE PARIS.	12	Mardi 5 Ja
-1802 exer 19 Jula 1615.	Adam Cardes	SEUL OFFICIEL (1) endemnt hore her jours de Beieren. non, 1.0; - Diperinnente an in- al fa- en men fil R., Dirit dels, 11 0; - Ettenger	Soundi 10 mars 1870	Nalis960 Dernier Cléture de la veille	DÉSIGNATION DES VALEURS
Papier, Argonia, Papier, Argonia	Prify d'Alexandrandr - Public, un en, Sr-17., du anda, jif Ro, trafer Alexandra Tana	II A TEAME	Demires Geers Istories	tifres de Date de Net cours cotés	R S The last Her has
Amsterdam b*.	Tende d'Enais Inguine	AU COMPTANT.	Conve. Printeranterit. 18 Conve. Comps. Terms. Articlate.	N.F. N.F.	N.F. 8.F.
- Georgent - 53 - 53 - 59 3/2 Humburg - F. C II F 40 5 - 16 F 50	C	·····································			19. – PÉTROLES ET CARBURANTS
Calls effectif, 14/ 150 0 14F C D		Product, 1997 1997 1997 1997 1997 1997 1997 199	B.4.6		METROPOLE
1 Billion 14f 15 c Lubra	The day is in a mark there, there is really access 0.0		B 40	1.262.250 30 25/6/39 3 3,16 133	ANTAR-PÉTROLES DE L'ATLANTIQUE (Anc. Baffin, Perholbrean et Servo, act. (ex.dr., ex.et. 6 du 7.76.76), act. 12995 125
Gunva eff 474	An and a set of the se	And an	13 in 11 in 1 4 in 40 kg 1	430.750 50 122,50 31/12	[33] — Promesses (Jee 1/10h)
Milian	2 το στο στο στο 4 χ - στο σ στο		all The Mar	20.201.821 10 411,50	AQUITAINE (Sté Nationales des Petroles d'),
Auguste	The Test of the Te	an lat. The most of the second secon	and and and also as	720.176 10 105,10	ISTORIGO et l'Altorist à 2022000 (c. 1 all. //C7 Avis le 14820). △ Remitcina (Ste Nat. des Pétroles d'), certificats 12/69 111,40 115,50. — 150● 15●
SL-Petersb	Emprenis (Selas er Villa).				petroliers corresp. A des actions de 10 N.F.
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	and the set and the start the start of a start of the set of the	0. 226 1016 58	11 111 11 11 11 11 11 11 11 11 11 11 11		12300001 à 14190122) (ex.dr., exe. 2 ou 2 barré, du 3/1/39) (c/ Nris a- 31291)
Bordonux,	140 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	17 11 27 21 21 20 20 20 20 20 20 20 20 20 20 20 20 20	11 and 117 and	1.738.030 00 16/7/59 3,25 266 120.060 70 21/5/59 2.03 638	O BERRE (Prod. Christianes et. Raffineries de), act. m=1 abd0372 at 28016 at 1780109 (2019) 277 271 6n 1 255,301 195,201 Ourburgent (Ste Franceise des), net. (50 (vsc 12)) 3382 445
Marseilie pair 1 1/4 p p	Consector being with the sector being and the secto			700.000 100 6/7/39 5 190,30	C COTIERS (Ca Elementine de Becherches
Or en harres, les soco/soco l'hecto . 545 f, 65 c. Or inennaté, les soco/soco l'hecto . 545 f, 65 c.	Patiente frantaisme. Sanger de France, constructiones, mon. par., stat. Sanger de France, construction, mon. par., stat. Sanger de Sanger d'activité d'		Bar is built is ex. 69, page	2.100.000 100 163.50	Feineleres, act. A (exe. 7). \$ 12030 191 130,50 . (r. 1 243,30 190 G COPDREP (Gle Financière de Rechevches) \$ 12030 191 130,50 1 243,30 190
Quadrapher neuves, la pièce Bi L. So c. p. 100 L.	2.4. A set of the s		4 10 4 10 20 10 10 40 40 10 10 10 10 10 10 10 10 10 10 10 10 10	78.400 30 4.5.59 2.90 254	Petrolleres, net. B 12 ⁻⁴ 700001 & 2500000 (cc-dr., etc., 6du3/11/3016; 7-smistaleur), 5 Docks des Alcools, Cerovaris et Lubrifants Aur. 12005 161 163
Argent en barres, las sono/iopo, le kilo, 219 f. e8 c.	Treat Preserve and	the Max and a second se	100 - 30a - 00, 00, 00 - 10 100 - 100 - 0, 00, 00, 10 100 - 100 - 0, 00, 00, 00		Etabl. Ch. Yers), ard. (ex-e. 30]
Pastre, la pièce		17. 384. 1711 11 11 11 11 11 11 11 11 11 11 11 1	4-0, 95(-13) ().		ESSO STANDARD (Sté Anonyme Française), nel. (ex-c. 22)
5 n. ob cons. jonic. do se Mars 1815. 57 f 56 f 80 075 0 36 f 50 0 85 0 56 f 55 f 75 0 56 f 55 f 80 0 50 0 85 0	The second secon	Harris and the second s	- d in 1055 \$250	800.000 100 25/6/59 3 185	G FINAREP (Sté Finane, des Pétrales), act. A (ex-e, 6),
Idam jouiss, du za Sept. 1813	the second secon	Protect and	4 au 10 m 50 m m m	1.600.060 100 108 100.060 30 21/7/50 6,75 152	G FINAREP (Ste Finane, des Pelroles), net. B (1199 300001 & 256000) (c. 3 spec. alt
Actions de la Banq, de Fr. jouiss du les Janvier.				6.000 00 21/7/30 6,75 152 6.000 21/7/30 22,76 446 319.192 30 21/9/30 1,50 77,80	Hydrocontrol of Backet (1) 2
		1 344		$\begin{array}{cccccccccccccccccccccccccccccccccccc$	¿La Mure, acl. (ex-c. 2). 2713 76 86,50 43,10 Lille-Bouniston et Gelomises, active 10, x b 3373 520 560 9191,10
Oblig, du Trésor, p. 0/0 perte par an. 15, Entreprises Particulièrer,	and a set of the set o	10/		Vendredi ± Janvier 1970	(PORPT ON FERDINAL ORPORTED FERDINAL)
Ast. der Ponts, jonus, du Jet Avril, Art. der Cousus du Midi, d'Orthans er de Leine	Gride moder 5	sala 9700 corpon de la cortate	62	COMPTENT Option (199) Con Con Content (199)	
1022 /		terres d monte de la rente de la rente de la rente de la rente de la finite de la f	ANTON BAS VALEURS		BURNA ON GENERAL DESIGNATION DES VALEURS 20 COMPTENT UN MU
18332 17 auce 1833	. 1st Cours. Mus bant. Mus bas. (134-307 36 4,30 33/4/53	2.30 00.00 5/12:00 8 Holustronia de Fabrication de de Transformat. 33.25.71. act. cel. 41.4. 10
/ en liquidation		10 CA CHARBO	RRIERES, SALUNES, DNS, PHOSPHATES	12,453 59 6 12/5/80	4 45 13 4.00 - Art priorits ignet 50
lin courant	·· 27 of 22 at 26 al		ublack and large another and the	07.3 302.50	5.00 101
5 p. o/o. d prime fin couras	8 74 24	555.000 20 7,00 20/3,93 3 113 200are et. 0.84 .x20-0. 100/	anatte du Centro (Mianz de), MR. 2852	112/10 114 158 110,00 103 103 7,50 55/9/0	5 (91,30 JHZ 5. 6., act. 05.4. 25
5 p, 0/0. } à prime fin couras	d' 1 27 80018	200.303 40 B 5.40 17/7/97 3.00 18.10 Carriere st Sc Prosence In 19.40 100 12.13 50.600 12.15 107 Charriere st Sc	eries de France (Ape, Stabt, Civit, deurdeus, Taguil et Car, eriene p tu Terren die Austi, des, ect. m.n.	21 30 33 . 39	41 10001 & 300100 mage 120
Linda and		4.0.000 40 10,11 00 0000 12,12 00 1	Ministre el Phaspasisteres articus 3253	M37 M34 S10(0,0) 455 M3 M S T1/7/60 \$1	Contraction of the second se
(à prime fin procha	27.60 11 11	185,100 - 50 5,50 13/10/02 3,66 10,10 Permet De (A Praneri ant	nr. Matil.) (Plarres et Marbres de arss	19	
4 p. o/o. { en liquidation			TE-THERESE (Mises des oul. 10 4 1550000 00007. 4x-4 10 00 X 8 15500 (Jon 117/45 X 8 15500 1 85000	101 101 11. 17/7/67	
fin courant		134.000 50 +++ -+++ ++++ MA -+ +++ - Art 1919.	(Jee 1/1/69		
Emprunt Sen liquidation		130.000 30. 4,69 17/7/67 2,10 47 Phosphales de	Dobaren (Cie Franc, das) im lig.)	40	13 18:12,10 Mecane (Fairinger Particulate do Province of the Nathingson (The Arthur and the Nathingson (The Arthur and the State
5 p. 0/0 1852. (fin courant			LUZENAC, art. (81-4, 47)	505,80 6,2 535 210,80 93,528 76 13,75 15/7,42	10,30 115,50 Metal Depuye (Let. ect. let-c. 10
en liquidation			TTRACTIONS	13.300 100 1,30 15/7,49	40 11/10/49 Drots d'attributos (2**1 6 73449 06 70
5 p. o/o, fin courant			ATTRACTIONS	Gr. 8 100.000 100 13,80 3116,49	9,20 210
5 p. 0/0, à prime fin cours		60.541 TO 13.50 0/10.43 9 350 Marrians, erfs	NRS 183-8. 26(286	
à prime fin proch		85.000 10 5.00 10.06.45 6.00 0.0	att. 102-6. 27		5 3.0 50/15/07/ms Restars of Fernerse, Reining of Construct Micensium and rese, 16
Actions de la Banque, fin courant			Las Indust. Multiplis of Wicels's 2095	58	2,00 00 51/15/09 My Morces at Cla. att. 102-5. 13
		91.8X 10 5.25 16/6/69 3.50 L24	t. 975-c. D	138,60 112 123 134.000 50 0.00 25.634	9,01 17,09 12/12-19 Ly Oner Month A.J. ant. ell.e. 171

Restaurant et Caves du Café Anglais 1880

Société anonyme formée par acte sous seings privés du 22 juillet 1879; définitivement constituée le 24 juillet; lesdits statuts déposés à M° Delapalme, notaire à Paris, le 26 du même mois.

Objet. - 1º Exploitation du Café-Restaurant connu sous la dénomination de Café Anglais.

2° Commerce des vins en France et à l'étranger ;

3º Acquisition, fondation et revente de tout établissement de café ou de restaurant, en France ou à l'étranger;

4º Acquisition et revente d'immeubles servant à l'exploitation desdits établissements.

Dénomination. - Société anonyme du Restaurant et des Caves du Café Anglais.

1907

- 216 -Société générale des Eaux de Calais

Objet : la jouissance et l'exploitation temporaire des eaux de Objet : la jouissance et l'exploitation temporativ des enux de Laxadle, esse a Lavalle, et du terrain sis am Pioto, le tout com-nume de Guines, arrondissement de Boulague (Pasde-Calas), dans la gropriée de M. de Guinelle: les eaux devroit servei a l'althem-tation et aux services journaliers des habitatis de la ville, port et dependances de Calais et de Suint-Perre-Jesc-Calais et l'enux etreou-voisins; enrin, la distribution des eaux lans la ville, port et dépen-dances de Calais, Saint-Perre-Jesc-Laist, Collogue et Guines. Siège social : à Calais ; bureau à Paris, boulevard Magenta, 113.

Durée : 99 ans, à partir du 7 février 1855. Capital social : à l'origine, 1.750.000 francs, réduit le 4 octobre

1871 à 900.000 francs, divisé en 9.000 actions de 100 francs fibé-rées et au portear.

Conseil de surveillance : cinq membres

Année sociale : close le 31 décembre.

Assemblée générale : avant fin juin ; une voix pour dix actions, nuximum, six voix ; dépôt trois jours à l'avance au bureau de

Répartition des hénéfices : 5 % d'intérêt aux actions non amor-tes : l'annuité nécessaire pour la remboursement des actions au pair, dans une période finissant en 1933 ; le surplus appartient

Directeur-gérant : M. A. Susini.

Service financier : à Paris, au Comptoir d'Escompte ; à Calais,

MM, Thirion, Noizeux, Degoix, Poumailloux, Ch. Perrissin.

Les actions de capital de cette Société, sont inscrites à la Cote

		- 217 -		
	05	Unit		
Anulus	Plue hant.	Plus Ias	Bénéfices	Dividentias
1901 1902	315	230 .	177.000	16
1903	310	265 n 270 u	184.000 190.000	14
1904 1905	310 315	273 50 280 p	210,000	14

BILAN AU 31 DÉCEMBRE 1905

T.809.333 60 0 6.337 ms. 10.33 T.809.333 60 0 0 0.000 0.000

Société nouvelle des Eaux de Martigny-les-Bains

(Vosges)

Objet : l'exploitation des eaux minérales de Martigny-les-Bains (Vosges), de leurs établissements, hôtels et terrains, ainsi que toutes opérations mobilières et immobilières, commerciales et in-

Siège social : 31, rue Le Peletier. Durée : 30 ans, du 17 juillet 1905.

1974 SOCIETE D'EXPLOSIFS ET DE PRODUITS CHIMIQUES

CONSELL : M.M. J. Chatel de Brancion, P.-D.G. ; B. Chatel de Brancion, R. Semelaigne, Mme J. Chatel de Brancion M. E. Simon.

DIRECTION : MM. J. Chatel de Brancion, P.-D.G. ; J. Chéreau, S.G.

COMMISSAIRES AUX COMPTES : MM. G. Rey, Ch. Gaillard, titulaires ; Mme G. Rey, suppléante. SIEGE SOCIAL : 61, rue Galilée, 75008 Paris. Tél. : 720-25-14.

CONSTITUTION : Société anonyme française constituée le 28 avril 1893, expirant le 28 avril 1983.

- OBJET : Fabrication, achat et vente d'explosifs et de produits chimiques usines à Saint-Martinde-Ce. (Bouches-du-Rône) et Billy-Barclau (Pas-de-Calais). A compter du le janvier 1973, la société a dese en location gétance se départements exploits et accessaire.
- FILIALES ET PARTICIPATIONS; Filiales: Franco-Hellénique d'Explosifs et de Produits Chimiques; Desta d'explosifs; Explosives and Chemical Products; Chérifienne d'approvisionnement minier; Societa Explosi

Participations : Irish Industrial Explosives ; Société Trabia.

- rat sOCLAL: 16.840.000 F, divisé en 94.200 actions de 200 F, dont 42.100 amontes de 5 E. Porés e. A L'arigine, 1400.000 fr. Pour règlement de l'impôt de solidarité ; en 1948 à 42.104.900 fr., por desiun 1946 à 21.052.400 fr. pour règlement de l'impôt de solidarité ; en 1948 à 42.104.900 fr., por cision de 210.524 actions gratuites (1, pour). Réduit en 1950 à 42.100.000 fr. par tochat de 48 actions, pau porté à 21.050.000 fr. par élévation du nominal à 500 fr. Regroupement en actions de 2.500 fr. 1952. Porté en 1954 à 421 millions par élévation du nominal à 500 fr. Regroupement en actions de 2.500 fr. Canverti le 1™ janvier 1950 en 4.210.000 N.F. Porté en 1963 à 16.840.000 F par élévation du nominel à 200 F. CAPITAL SOCIAL: 16.840.000 F, divisé en 84.200 actions de 200 F, dont 42.100 amorties de 5 F.

- PARTS DE FONDATEUR : 29.473 parts. Aucun droit de souscription dans les augmentations de capitai. Il existe une société civile. Rachat de gré à gré prévu.
- REPARTITION DES BENEFICES : 5 % à la réserve légale, somme à fixer pour tous fonds de réserve ou prévoyana, reports à nouveau ; éventuellement 10 % au Conseil d'administration ; dividende réparti : 75 % se actions et 25 % aux parts.

LIQUIDATION : Extinction du passif, remboursement de capital. Sur le solde : 25 % aux parts, 75 % au

SERVICE FINANCIER : Siège social. Service des coupons : Crédit Lyonnais.

COTATION : Paris Actions et dixièmes de parts « Cote Desfossés », 23. - Notice SEF : PC 229.

NION : Ports Actions at diskemes de parts € tote Destosses s, 23. — Notice SEF + FC 229. (DNS NETS + Actions : N° 16 (2 octobre 1967), 7,82 F; 17 (30 septembre 1968), 7,82 F + Av.F, 3,91 F, 18 (30 septembre 1969), 7,83 F + Av.F, 3,91 F, 19 (30 septembre 1970), 7,82 F + Av.F, 3,91 F, 20 septembre 1970), 7,83 F + Av.F, 3,91 F, 19 (20 septembre 1972), 7,83 F + Av.F, 3,91 F, 20 (20 septembre 1970), 7,82 F + Av.F, 3,91 F, 20 (20 septembre 1970), 7,82 F + Av.F, 3,91 F, 20 (20 septembre 1970), 7,82 F + Av.F, 3,91 F, 20 (20 septembre 1972), 7,85 F + Av.F, 3,72 F, 53 (30 septembre 1969), 7,45 F + Av.F, 3,725 F, 62 (29 septembre 1972), 7,45 F + Av.F, 3,72 F, 16 (130 septembre 1973), 7,45 F + Av.F, 3,725 F, 62 (29 septembre 1972), 7,45 F + Av.F, 3,725 F, 63 (28 septembre 1973)

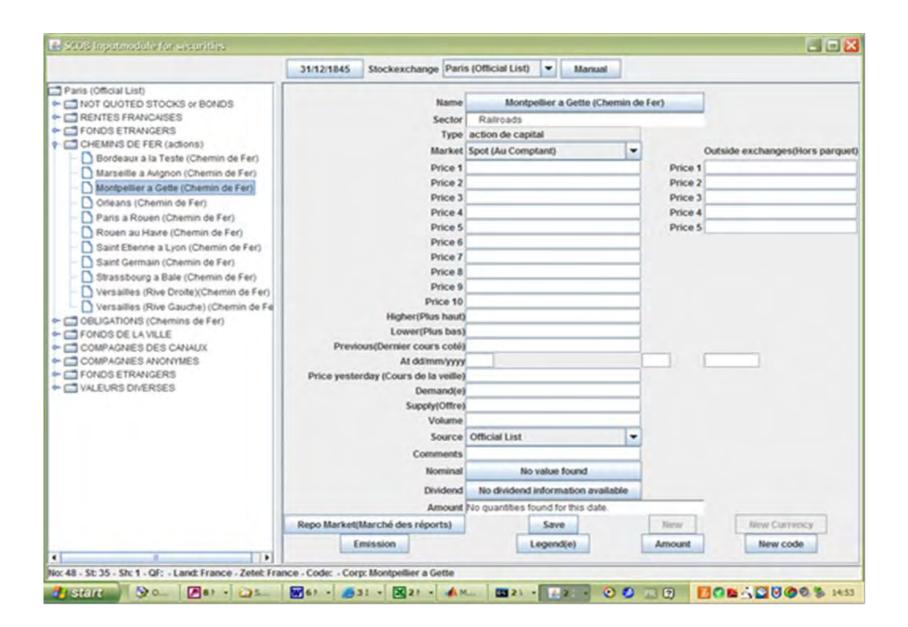
RE D'AFFAIRES (H.T.) (en millions de F): 1966: 49,47; 1967: 45,50; 1968: 49,66; 1969: 42,54; 1970: 42,54; 1971: 50,69.

10 P - Av. F. 4.35 1		COURS EXT	REMES			
1968	1969	1970) 1	971	1972 1	973 (31 oct.)
P. H. P.	B. P. H. P. I	3. P. H. P	. В. Р. Н	. P. B. P. I	I. P. B. P	P. H. P. B.
\$ 209,00 138 158,00 120				0 163,00 205, 0 101,40 143,		16,00 53,10 26,00 102,20
AMORT.	PROVIS.	BENEFIC	e Reservi	ES ET TAN		V. NET PARTS
1/39723 280070 .3	SKAR TRACT	(En Fran	ncs)	alvis sives	4	10000
3.096.071 2.676.093 2.168.263 1.963.311 1.748.486	294.699 57.435 863.750 257.416 1.592.591	2.104.995 961.448 2.658.857 1.498.888 2.319.898	1.129.00 * 1.730.55 570.55 809.57	928.42 20 928.33 51 928.33	7,82 7,82 7,82 7,83	7,45 7,45 7,45 7,45 7,45
BILANS AU 31 DEC	EMBRE	1968	1969	1970	1971	1972
Actif oilisations (nettes) valeurs immobilisées	1920	15.984.922 9.302.095	14.252.257 4.571.545	(En Francs) 15.645.515 9.397.137	12.736.601 11.641.976	11.875.092 13.495.135
iteurs d'exploitation iteurs es de placement ible		6.022.838 18.830.139 20.238 402.537	6.722.754 21.237.145 1.937.838 617.014	6.584.758 22.089.827 1.449.402 434.734	11.076.190 23.935.564 1.228.740 193.128	11.249.534 23.782.188 768.228 263.212
Passif		50.562.769	49.338.553	53.601.373	60.812.199	61.433.389
es alue à long terme de renouvellement et		16.840.000 21.143.526 3.471.519	16.840.000 22.272.593 ≫ 3.472.105	16.840.000 22.174.817 3.587.891	16.840.000 20.678.334 3.357.797 4.134.588	16.840.000 21.093.346 3.513.337 3.455.141
à moyen et long terme à court terme es		» 7.002.729 2.104.995	» 5.792.407 961.448	» 8.339.808 2.658.857	19.356 14.283.236 1.498.888	19.742 14.191.925 2.319.898
- 46,027 006 A87.0		50.562.769	49.338.553	53.601.373	60.812.199	61.433.389
		- 1610) —			

Data Entry for the Official List (1)

IT organized manual data entry

- Reproduction of the structure of the Official list into the DB
- Sources' digitalization
- Creation of a data entry mask (java program)
- Training of data entry firm's operators (outsourcing for the most part of)
- Data delivery
- Data quality checks (IT validation, check of outliers; complete check on a representative sample)



Data Entry for the Offical List (2)

Specific OCR based software: some experiment (the same for Yearbooks)

- Sources digitalization
- Elaboration of a lexical dictionary and specifications rules to instruct the OCR software
- Design and creation of an interface human software
- Design and creation of a workflow management system

de de	Période l'amortis- sement	Dates des Tirages	Époques de jouissance	Intórēts Eseries précéd.	Corp. coug	on says	125 (au cen 1. bast P	jany. plant)	totare de ia valla	DESIGNATION DES VALEURS	Joulisance courante	- COMPTANT	Reports Liq. h Fauizo	Cours de	da la veille	-	1" cours	Plus haut	Plus bas	Dersfer ins.
200.000			inal	621		23 336	1540	1075	1350	Ronte Poneière, act. 100 fr., t. p. (cx.e. 44)	8 mai 29	1420 1425 1430	3 36	1360	1359	off Hquid. au 31 Pr. deln Pr. au 31. Pr. au 31. Pr. au 38.	1438 1465 	1449 1449 1440 d20 1440 d20 1440 140 d20 140	1620 11	1122 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
300.000			Savroct.	8f	8.,	0 50	\$1260	461	623	Società (fenerale Fonsistre, act. 100 fr., i p. (Ordr., ex.: 18)	8 ayril 29	635 637 638 639 640	Pair 	640	025	pr. au 98. au 31 Pr. dem. Pr. au 31. Pr. au 35. Pr. au 38. Pr. au 15.	639 642 	642 640 d20 640 d40 d40 d40 d40	035 · · · · · · · · · · · · · · · · · · ·	111181 111181 111181 111181 111181 111181
436.796	1870-1968	1E dán	inny -tutt	644157	210	188.71	9/5100	18400	21050	Suez (Censi Marilino de), aci. 230 fr., l. p.							21095			
63.273			janvjuil.	632107	203 75	149 88	23900	18400	20300	 (a=1 & 323398et 400001 & 62.8087(ex-c.142). Act. do juniss. (a=1 & 56319 et 400001 & 4388(10) (ex-c. 103). (a= computant settlement) 	panvier 20	20005 21050 21030 21075 21005 21100 TEINE + Le 13 c + 21100 pits maxil coutes 21100 21400 di800 au st lanvier \$1700 22000 di800 au st lanvier \$1700 22000 di800 au st lanvier 20205	51	21000	20900 1.	en liquid. au 31 Pr. dem Pr. au 81. Pr. au 15. Pr. au 15. Pr. au 25. Pr. au 15. Pr. au 15. Pr. au 15.	22600	21220		21103 - 010 21400 - 010 21600 - 010 21800 - 010 21800 - 010
100-000			janvjul)	712719	229 37	111 36	24700	17600	19560	(un complant schlement)	jansior 30	19259	47 00	10600	49503	Pr. au 15. an Hennid. au 31. Pr. au 31. Pr. au 31. Pr. au 23. Pr. au 15.	19275 19375			22400 - 696
84.5697			ianyinit.	1130 004	\$07 50	259 15	33950	26300		- (81é Civile nouv le recouvrement des 1575		And the second	1							1111 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
			janvjuft.		81 50	51 68	7840	5000	3950	- Compliènes (as c. 25) (au completed ordement)	6 jany, 30 6 jany, 30	.29300 28600 28500 22870	72 40	29800	20875 -	en Hunid. nu 31 Pr. au 81. Pr. au 85. Pr. au 25. Pr. au 15. Pr. au 15.	29300 29350 :: : 			······································
					1					CHEMINS DE FER						en liguia.	1210			
585.000 257.914	1857-1984	25 juillet	mai-nov	SE (30		13 585	1260 690	1038	(1260	Est, set. 300 fr., t. p. (er.e., 144)	nov. 29 nmi 29	1200	2 95	1210	1208	en liquia, au 31 Pr. au 31. Pr. au 31. Pr. au 35. Pr. au 35. Pr. au 15.	1210 :: 1210 :: 			11111
	1907-1908	25 juillet	mai-nov	80f 60f	≌0 10	12 90 3 97	1390 1240	1367 923	1890 1230	an complete scalement Lyon, set. 500 fr., h. p. (exc., 141) Act., ge jouiss. (exc., 44). ans completed scalement)	1107. 39 207. 39	1585 1660 1590	3 85	1580	1576	Pr. su ib. nu il Pr. su ib. Pr. su ib. Pr. su ib. Pr. nu ib.	1595 1599 			
250.000 67.424	1871-1955	27 avril	janvjuil.	62150 87150	25 37 50	17 38 27 13	1370 800	1130 671	125 800	Midi, acl. 800 fr., t. p. (ex-e. 159) - Act de jourse. (ex-e. 58) (aux.completal scalement)	janvier 80 juillet 29	4300 1295 1275	3 30	1340 .	-1337	en liquid. au S1 Pr. au S1. Pr. au S1. Pr. au 35. Pr. au 28.	1292 ···			1300 1300
525.000 101-605	1865-1950	1* inai	janyjuil.	1001 841	20 12	10 76 5 526	2720 2260	2205 1730	2615 2260	Road, acl, 400 fr., U.p. (even, 147)	janvier 30	2815 TBRMs to 14 m prime dd0 au 11 ferrier milic Inn - 2760 dd9 au 15 ferrier	6 35	2600 -	2630	en liquid. au 31 Pr. dom Pr. au 31. Pr. au 35. Pr. au 25 Pr. au 15.	2600	2625 2660 d40 d100 d100 d100	2605	2510
600.000 303.260	1853-1951	B merfil	avril-oct avril	78130	15 57 30	9 71 43 90	1478 1145	1220	1455 1123	Orlenns, act 360 fr., h. p. (exc. 155) Act, de jouiss (sx-c. 153)	octobre 25 avrli 29	146% 1460 1451 1450	3 55 • •-	1460 ,	. 1455	en liquid. au 31 Pr. su 31. Pr. su 45	1480			1430
200.000			juin-dee	1307	128	39 20	8995	2790	2390	Santa-Pb. (Costrances des Chemines de Fêr de la Province de), acl. 300 fc., t. p. (ex-c. 31)	20 dec. 25	2580 2385 2590 2995 3090 3005 3095	7 30	3000 .	. 2973	en liquid. hu 31 Pr. au 81. Pr. au 15. Pr. au 28.	3000 ··· 3020 ···	5020 11 d100 d100 d100 d100 d100 d100 d100 d100 d100 d100 d100	2995	3505
590,000 99,260	1898-1938	7 juin:	mai mat	85f. 27750	85 97 50	28 21 20 63	1400 1030	1085	1218 930	Metropolitain de Paris, set 150 fr., t.p. (cx-c.28) Act. de jouise, (cx-c.28) (zu compland sculement)	juillet 29 juillet 29	1250 1255 1268 1269 1270 1272 1274 1275 961	3 10	1270 .	-e1240 .	en liquid, nu Si Pr. au 81. Pr. au 83. Pr. au 98. Pr. au 10. ca fiquid. Pr. au 10. Pr. au 10. Pr. au 10. Pr. au 10. Pr. au 10. Pr. au 20. Pr. au 20. Pr. au 20. Pr. au 20.	1275 1280 1285 1285 1340	1238 1238 1230 d10 1230 d40 d400 d100 1365 d20 1365 d20	1208	100 100 100 100 100 100 100 100 100 100
236,000			juin-dée			34 696		3073	3800	EAUX, ÉLECTRICITÉ Esser et de l'Balancars (Stél younnaise des), sel, C 256 m., L p. 107 20001 2 120000 (ct. * S).	děc, 29	3815 3805 2315 3820 3829	9 20	3779 -	. 3755	Pr. au 15. au 31 Pr. au 31. Pr. au 15. Pr. au 28. Pr. au 15.	3825 3820	5545 3895 d100 6000 d100 d100	3805	3125
250.600 400.000			juin déc.	631	26 20 65	19-88 45-63	4400 8170	2600	3735 8165	 Act 0 de jourse, nor 1520000) (esc. 18) any compliant seviennessi) Distribution d'Effecticité (130 Parisienne de) act 200 fé. 1 p. 1672 20. 	juillet 29	3200 3205 3010 3945 3020	7 80	3200 .	. 3135	Pr. au 15. en liquid. au 31. Pr. dom Pr. au 31. Pr. au 15. Pr. au 15. Pr. au 15.	3200 3220	3220 3220 3220 3220 3220 3220 440 3250 4100 3250 4100	3190 ··· 3270 ···	3215
\$50,000		nt jain	juin	151	15	8-51		880	1060	Elestricité de la Seine, act. de prior. 250 (r., t. p (care, 1)		10/6	¥ 15	1080 .	. 1059	Pr. an 15. Pr. au 28. Pr. au 15. en liquid. au 31. Pr. dem Pr. au 31. Pr. au 31. Pr. au 31. Pr. au 31.	3290 1080 1087	3300 d100 3310 d100	1075	
1.670 400.000		••••	décembre	ssir	sä		745	675 1011	1229	- Act de jouiss (au compliant sentement) sisterriets of Gas du Nord, set 200 fr., i. p (cs.e. 15)	(e. 1 att.) 6 dec. 29	1230 1232 1233 1234 1295 1239 1240	3 05	1250 .	. 1224	Pr. au 31. Pr. au 15. Pr. au 18. cn liquid. au 31	1098 	1057 1400 410 1135 440 1135 440 1250 1250 440		1945
247.000			juindóc.	851	43 50	29 796	@ \$750	5040	8730	Electricite (de Générale d.), unt. A 200 ft., L. p	. 10 đéc. 2	3740 3745 3750 3765 3779 3775 3760 3770	9 20	3780 .	. 3710	on liquid au 31 Pr dem Pr au 81. Pr au 81. Con liquid au 31 Pr au 81. Pr au 81. Pr au 81. Pr au 81. Pr au 81. Pr dem Pr dem Pr dem	3775	1250 440 440 440 440 4100 4100 4100 4100 4100		3750 - 48
600.000			juillet	507.	.30	87 06	1645	1225	1463	Energia Sicetrique du Littoral Mediterranee nel. A 500 fr., l. p. (cs.u. 27)	. juittet 39	1470 1465 1478 1473 1474 1475 1476 1478 1478 TRIME: 1.0 15 ct : 1615 1525 030 au 15 fewrier 1535 1556 100 au 35 fewrier	3 50	1460 .	. 1463	Pr. au 15. en liquid, au 31 Pr. dem. Pr. au 31. Pr. au 15.	1455	1285 1285 	1465	
450.000	••••		juillet		37 50		●1360	995	12:0	Shorple Klactrique de Nord de la France, mil 200 fr., L. p. (ex.e. 24)	i juillet 29	1235 1236 1239 1240 1744 1245 1246 1248 1249	3.05	4250 .	. 1230	en liquid. au 31 Pr. dom. Pr. au 31. Pr. au 31. Pr. au 33.	1250	1256 d±0 d50 d40	1250	1000 1000 1000 1000 1000 1000 1000 100
600:090			15 juillet	301	-30	23 522	1580	936	1240	FORGES, FONDERIES	15 juillet2) 1250 1255 1260 1281 1265	3 10	1260 .	. 1235	en Houid. au 33 Pr. dom. Pr. au 31. Pr. au 15. Pr. au 28. Pr. au 15.	1258 1205 1275 1300	1272 d20 1280 d20 1305 d40 1305 d40 1320 d40	\$205 \$310	101 101 101 101 101 101 101 101 101 101
400.000			decembre	231.	23	18 83	830	440	628	HOUILLÈRES, MINES Accelles at Forges de Firminy, act. ord. 250 fb b. p. (cx-c, 195).	. 13 déc- 2	9 549 690 692 663 650 550 564 669 669	1 50	650 .	. 633	en liquid. au 31 Pr. au 31. Pr. au 43. Pr. au 43. Pr. au 43. Pr. au 5. en liquid. au 31.	652 658 680	570 590 dat) dat) dat0 dat0	651 	1857 15 1 1857 15 1
155.000			novembre	1857.	135	38 G	6 5930	2200	2783	Electra Metallurgie de Dives, ord. & 500 fr., t. j.	20 007. 2	9 2795	6 70	2750 .	. 2750 .	Pr. au 28. Pr. au 15. au 31. Pr. au 31. Pr. au 31. Pr. au 35. Pr. au 28. Pr. au 28. Pr. au 32. Dr. au 29. Dr. au 31.	2700 ··· 2795 ···	2820 d100 2810 d100	2775	28-70
628-000			décembre	401.	. 23	19 78	2193	1405	1186	Forges et Acléries du Nord et de l'Est, aut. 250 fr., J. p. (2006, 64)	A 10 dêc, ≇	n 1999) 1815 1820 1825 1830 1840 1845	64. 6 - 19	1800 .	. 1760 .	Pr. an 13. an liquid. au 31. Pr. dem. Pr. au 31. Pr. au 31. Pr. au 32. Pr. au 33. Pr. au 35. Pr. au 35. Pr. au 35.	1705	1815 1815 1815 1840 1840 1840 1840 1840 1840 1840 1840	1800	

Conso		

4	-			_	-	-	-	-	-		_	-			-				-		-	-		-	DOUR		Meter		Janvis	1
Namire (d	Hide	Tein des Tinge	ha h	izari inda	et (274) Arit, cop	te den a pyri i		rian rian Réal	8201	ots	ALTER	188 TAL		λa N	1000			COM	-	8		legerta Life k	Guers de	ittere de 34	COUR	te cours	Pra 1		to bu	
Tim	NUCES	Inde) CINE	det		4					-				t			-				-		tid in	e lenit.	113				
51-10	-	-	ei.	. 41.	ø.,	5 196	150	115	800	Redation	n st 1	08.1 <i>3</i>	15. FC	1	- 5	10	145 1	1	ham			3 M	(39)	11 ~	2.001. 2.001. 2.001. 2.0017	148 - 140 - 1 - 10	140	41 50 50 158	-	Î
20.30	нÌ		they-a	s. H.	۰.	1 60	-	-	10	10412 Bits	ala Ded	a, sei	a (.)	8		- 65	637 638	ca w	anni			IN.	ei	<u>ак</u>	a lett	82	12. 12.		œ.,	
-						t					-	AUX			T		1								7.01 7.01 7.00 7.00	1111	1.1.1	40 140		
14.5	RAZ	SIN.	Jun-h	1. 340	00.0	1	830	1518	108	S ^{at (Cn}	Xortin A HANG	102	10.1.	F			. 25000	1	N 808		-	-	2007		e Byzil.		225			
										• *	54 852798 1	24111	and the second	- pa		29	TUNE	M Her	1 226 1727 54 1742 5			8	CO01 11	292 H	9.4m. 9.111 9.111 9.112	200	120	1988 1980 1980		AL DA
6.17	-	in .	100040	. atri	26 15	10.25	500	1561	1006	- 15) (104) 3) (104) 10 (107)	er 115 10	antes)	1		31									日本には	12537	2593	1100	100 A	20
10.00	100	-	(111.)	9. 72H	BI	10.64	57	1708	102	- Net	to fixed.	64.10	1	(17	101-3	6 42		inan it				41.90	980 v	600	line		interest bill	138		
ĺ.																				ł					12.411. 東京市 東京市 東京市 東京市			20 00 00 00		1
11.32	ind.	mę	(art-ja	110.01	RA 30		20	200		40	11 pro-	SQ	ter inter	22 (c)		200	560	naco 25				20	30.	8 85 -	1111 1111 1111 1111 1111	뾃:		1900 1940 1940		1 1 1
		100	jaar.ja	1254	N 00		~		OM.		an can	-	-		-	200	.umi	100		-		-			1.48			900	-	P
HL 90	107-19	-THE	wiew	1.0	22	1 38	190	100	130	Et, at. 1	in the last	ne ja	En			10						285	28.	-	e test	126			+:	
87.99	149	1111	(ML	. 80	15 SS	2 10	0	at.	90	- 81	(1952.) 03 (198	net TD. Mont Area	eril.			18	e; a		-						1 M.L. 2 M.L. 2 M.L. 2 M.L.		And the second s	121		
10 m	100		mice	- KY.	8 11.)	15	-	167	150	- 10	epress. 1	10 - 10 -	(onl)		H (1	12	-					33		-	a leid 1.45Z 1.45Z 1.45Z 1.45Z 1.45Z		Last in Last in	14) 14) 14)		
10100	and the second	T und		60	20		M	181	105		H, U K	14.10				. 12	26	D		-	-	18	1941 1	19.0	- Tint	122				
6,8	101		alla.	10	#14	10	8	-	20	81	notise (n-1. M) Anni Ann	(ereti)	ja	incb	85						10			1.111. 1.111. 1.111. 1.111.	111	10110	188 1986 189	100	
10.03	-		an a	-	e.,	125		130	20	- 14	doain i	-a 167.		Ľ,		111	1.61	e" : pris lite	52 II	i Banga a B Sa	ala E	120	2008 1	-	7.400. 17.1031 17.1035 17.1035 17.1035		50			
				125			150		160	Crass, ed	an city	a dest.	Anim()			2 141	140	11 100	1.45			18	1420	145	r. 11 3. 1. 11 3.	111		H		
88.00 212.56			arior	100	11 17.00		11.	100	10	- 4		the R	lawed.		ei 3			1100				18		1	0 3quil 22 17 10 11 17 10 15 17 14 P		-	10) 130) 12		
		- 100	Jares	. 20	-	1	1	1	-	Super-	el, el X	8,1,5	(ed 2)	-9	64.2	5 738	201 3	C 28	00 M	381		78 44	£20	571	rus rus rus	100	121	10 10 10	28.1	
201.00	296-13	106-	4	nt			128	185	84	Ballopida.	a Faria	11.2011	Link	8.5	iora	- 15	1965	14 133	-	103	198 au	29	178	नाव	a Appel	105 -				1
39.50	-	114	PR	18	ns	55	100	10	301	3	i ingd	ter in ja 1 secto	na inse. edi	6- p	10129	10						10			0.1406 0.77 0.42 0.42 0.42 0.42 0.42 0.42 0.42 0.42	18	18	in a particular	111111	
-			1055		2.5	:00		NO.	200	EAU E St	X, ÉI		10.7												en terth		1	*	THE R	
61.00			mi-di	inte		¥ 8	-	500	144	- M	-	-	ang (pac. Ang (pac. Ang (pac.	11	lik 9 Sic 9	31	1994 I	el 385	#3			18	3711	20.	中山区 三田田 三田田 三田田	- 803 - 10 (011 - 10	10			
		4	(inter	(B1	6.	4.0	10	912	16	D at has	chair the	A REAL	lizhietan				375	10 374	17	_		16	58.	ux	o lesi		-		100	į
Ľ.																									2.423 2.423 2.423 2.425 2.425 2.425	220 330	感。			
19.16		z)e		tit.	3	15	135	59	200	Defects	e a Sette,	et.dept (14		+17	100	17						18	120 .	28 .	n Ipili	<u>ه</u> :			10111	1
10	-	-	1986	- 21			-	52 81		- 1	e fai di	int, se	1		+		inter.				-		-		2 413L	128	-	10		
25.00	-tr	Ind	100/122	30	S	1	Lei	-41		Si-strots (D-C 18)		-	Nº Py	4	dia H	in in	22	20 1134	105 KD		in second	30	150 -	TA .	0.000 0.000 0.001 0.001 0.001 0.001	113	122° -	1.2.2		1 1 1
2130	-	Pia.	1111-0			11	•	1	1	4.1.30	2	1000		- 10	4.1	54	g14 .	1961. 6 1	000 10	151	01	920	SMD -	20	4.5 4.5 4.5 4.5	14.1		100 131 150		1 1 1 1 1 1
-	-	-	lugie	RC	x	•	10	110	ist:	Section B	1 m	talini a B).	bliers		114 2	565	346	N 103	104 10	5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	10 143	38	148 -	45,0	100	100	1986 -	-		-
ar m			jin.	. na	57 60	9 13	13	-	57	targo fo	eren in	a de la	trace, o	A.			FRE : I	Heij		2 11 2 11	bear bear				1 413 1 413 1 413 1 1115	120	125	89.82	1111	
							1			-		*		ľ	T		1		-		1	10			a dur. 1. tr.31. 54.15 a ar 35 a Jeal		1011	2.262	1111	1 1 1 1
40.00	uni		5 (4)	L KC	30	2 92	9	9	(31)	Theread	alar (Ga	Propage 1	da 7m5	65. ₁₀	-	-	-112	19 M	21	-		10	150	-	en lipud. In dig. In dig. In dig. In dig. In dig.	優		0.000	11100	11.00
		Ę.						-		FOR	CES, I LÉI	FOND LES,	E RIES NINE	\$	1	ļ.							L		1 40 SS	10.0	-		11	1
at 10		-	(icent)	n 191	s	9.5	8	-	98	And the second	ma	haiq.i	14 8	6 . a		54	60 43	85 68	200 MA	M M		10	£0 -	m.,	a laid a li T will	1120	IC.			
28.00	- mi	ū	1993	e. 557.	58 i i		•18	530	182	E	a trype	in e	3017	8.0	27 1	1						479	DA .	200	1 4113	278	100	a a	1 10 1	
-				o 431		12	tre	185							-						-	-	-		1 103	157	390	117 118 119	ŧ	
155.00	***	119	00000	e 1	1	1	-	100	18	Finite H SUD, S	1 194.	and H	HTHE A	1 1	6.1	112	195	an 10	82 14	10		44	œr.	10 .	6.494 6.11 7.490 7.490 7.490 7.490	105	1813 1840	日田田	-	
					H	t			H	+			F	Ħ	t	t	-				1		t		1.413 1.413 1.413				1111	

- 8 X

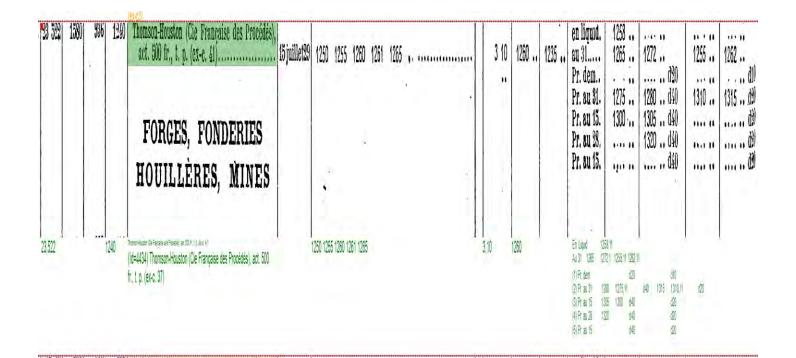
	ombre	Période d'amortis- sement	Dates	Époques	Intérête	et Divi	dendes	Cours a depuis la	trimes	tilliare da la	DESIGNATION DES VALEURS	Jouimance	- COMPTANT				COUR	S DU	TERME		_
1	de fitres	sement	Dates des Tirages	Époques de jouissance	Intérête Exercise précéd. (brut)	brut	net	Pl. hant	Pics bas	do in vollio (compt.)	DESIGNATION DES VALEURS	courante	- COMPTANT	Reports Liq. à l'autre	Cours de compens.	de la veille	• •	1. cours	Plus haut	Plus bas	Dert
1	200.000	ç		mai	42f	42	29 396	1540	1075	1350	R ente Foncière, act. 100 fr., t. p. (ex-e. 44)	8 mai 29	1420 1425 1430	3 35	1360	1359	en llquid. au 31 Pr. dem Pr. au 31. Pr. au 15. Pr. au 28.	1438	1449 1440 d20 1440 d40 d40 d40	1420	142 145
	200.000			15avroct.	8r	8	0 60	●1260	461	625	Société Générale Foncière, act. 100 fr., t. p. (ex-dr., ex-c. 18)	8 avril 29	635 637 638 639 640	Pair	640	625	Pr. au 28. on liquid. au 31 Pr. dem Pr. au 31. Pr. au 15. Pr. au 15.	639 642	642 642 640 d20 640 d40 d40 d40 d40	635	63
				8							CANAUX		84 A 8								::
	446.796	1870-1968	16 dée	janvjuil.	644157	210	152 71	26500	18400	21030	Suez (Canal Marilime do), act. 230 fr., t. p. (n~1 à 223398 et 400001 à 623398)(ex-c.142).	janvier 30	20995 21050 21050 21075 21095 21100 TERME: Lo 14 c ⁴ , 21190 plus haut cours 	51	21000	20900	en liquid. au 31 Pr. dem Pr. au 31. Pr. au 31. Pr. au 35. Pr. au 15. Pr. au 28. Pr. au 28. Pr. au 15. Pr. au 15.	21095 21200	21250 d1000 21650 d200 22500 d1000 22200 d1000 22800 d1000 d200 d200 d200 d200 d200 d200 d200 d200 d200 d200 d200 d200 d200 d200 d200 d200 d200 d200 d1000 d200 d10000 d1000 d1	21050	2110
	64.272		·	janyjuil.	632107	203 75	149 33	23900	18400	20300	 Act. de jouiss. (nºi 1 à 56919 et 400001 à 456919) (ex-c. 104)	janvier 30	•				Pr. au 15. Pr. au 28. Pr. au 28. Pr. au 15. Pr. au 15.	22600	22200 d200 	21800	2185
	100.000			janvjuil.	712f19	229 57	177 56	24700	17600	19500	- Parts de fond, (ex-c. 104)	janvjer 30	19250	47 60	19600	19500	en liquid. Pr. au 31 Pr. au 31. Pr. au 15. Pr. au 28. Pr. au 15.	19275 19375			
	84.507			janvjuil. janvjuil.	1130f04	407 50		38980	26800 5500	29650 3930	 (Sté Civile pour lo recouvrement des 15 % altribués au Gouvernement égyptico) (estamp, du c. 51)	6 jany. 30 6 jany. 30	29300 29600 29800 29840	72 40	29800	29875	en liquid. au 31 Pr. au 31. Pr. au 15. Pr. au 28. Pr. au 15.	29300 29350			
	-										(au complant.seulement)			- 1			Pr. au 28. Pr. au 15.		: :: d1000		:::
11	584.000	1857-1934	25 juillet	mai-nov	52150		13 583		1035	1200	Est, act. 500 fr., t. p. (ex-c. 144)	nov. 29	1200	2 95	1210	1208	en liquid. Au 31 Pr. au 31. Pr. au 15. Pr. au 28. Pr. au 15.	1210 ::			
	800.000	1907-1933		mai-nov	80f	20	12 90 5 97	1590	1367 923	1590	- Act. de jonins. (ex-e. 77) (au complant seulement) Lyon, act. 500 fr., t. p. (ex-e. 144)	nov. 29	1585 1589 1590	3 85	1580	1576	Pr. au 15. en liquid. au 31 Pr. au 31. Pr. au 15. Pr. au 15. Pr. au 15.	1595 1599			
	196.757		••••• •	janyjuil.	60f	25	5 97	1240	923	1230	Act. de jouiss. (ex.e. 44) <i>(au comptant seulement)</i> Midi, act. 500 fr., t. p. (ex.e. 149)	pov. 29 janvier 30	1250	3 30	1340	1337	Pr. au 15. Pr. au 28. Pr. au 15. en liquid. au 31	1292	d40 d40 d40		130
11	67.494 525.000		••••	juillet janvjuil.	37f50	37 50	27 15	800 2720	671 2205	800 2615	Act. de jouiss. (ex-c. 38) <i>(au complant seulement)</i> Nord, act. 400 fr., t. p. (ex-c. 147)	juillet 29 janvier 30	805	6 35	2600	2630	en liquid. au 31 Pr. au 31. Pr. au 13. Pr. au 28. en liquid. au 31	1292 ··· 1299 ··· 2600 ··· 2605 ···	440 	2605	26
	101.604		*	janvjuil.	841	12	5 526	2260	1730	2260	- Act. de jouiss. (ex-c. 147) (au complant seulement)	janvier 30	- 2615 TEINME : Le 14 c* : prime d40 au 15 février hulle lire : 2740 d40 au 15 février 2250				en liquid. au 31 Pr. dem Pr. au 31. Pr. au 15. Pr. au 28. Pr. au 15.		2625 440 2660 440 	2605	
1	600.000 303.260	1853-1951	8 aoùt	avril-oct avril	72 f 50 57 f 50	1001000	10000	1145	1226 785	1453 1125	Orléans, act. 300 fr., t. p. (ex-c. 153) — Act. de jouiss. (ex-c. 154) (au comptant seutement)	octobre 29 avril_29	1465 1460 1451 1450 1125	3 55	1460	1455	en liquid. au 31 Pr. au 31. Pr. au 15 Pr. au 28.	1480 1480 	···· · · · · · · · · · · · · · · · · ·		14
	200.000			juin-đéc	150f	125	89 20	3993	2790	2990	Santa-Fé, (Cie,Française des Chemins de fer de la Province de), act. 500 fr., t. p. (ex-c. 21)	20 déc. 29	2980 2985 2990 2995 3000 3005 3025	. 7 30	3000	2970	en liquid. au 31 Pr. au 31. Pr. au 15. Pr. au 28. Pr. au 15.	3020	3020 d100 d100 d100 d100 d100	2995	30
	800.000 99.960	1898-1953	7 juin 	mai mai	851 27150	35 27 50	25 21 20 53	1400 1030	1023 700	1248 930	Métropolitain de Paris, act. 250 fr., t. p. (ex-c. 28). Act. de jouiss. (ex-c. 21). (au comptant seulement)	juillet 29 juillet 29	1260 1265 1268 1269 1270 1272 1274 1275 951	3 10	1270	o1240	en liquid. au 31 Pr. au 31. Pr. au 31. Pr. au 13. Pr. au 13. Pr. au 13. Pr. au 13. Pr. au 13. Pr. au 31. Pr. au 33. Pr. au 33. Pr. au 33. Pr. au 33. Pr. au 33. Pr. au 33.	1275 1280 1285 1340	3020 d100 d100 d100 1288 1290 d10 1288 1290 d10 1288 1290 d10 100 100 100 100 100 100 100	2995	12
	286.000			juin-déc	651	32 50	24 696	4800	8075	3800	EAUX, ÉLECTRICITÉ Eaux et de l'Éclairage (Sté Lyonneise des), act. O 200 fr., L. p. (n+ 240001 à 556000) (ex-c. S)	déc. 29	3815 3805 3815 3820 3825	9 20	3770	3755	Pr. au 15. on liquid, au 31	3825			
11	240.000 400.000			juin-déc juillet	52150 651	26 25	19 88 45 62	4400 3170	2600 2110	3325 3165	 Act. 0 de jouiss. (n*1 à 240000) (ex-c. 18). (au complant seulement) Distribution d'Électricité (Cie Parisienne de), act. 250 fr. t. p. (ex-c. 23) 	déc. 29	3335		-	- 12	on liquid. au 31 Pr. au 31. Pr. au 15. Pr. au 28. Pr. au 15. en liquid.	3200 ···	3845 3895 d100 4000 d100 d100	3805 ::	
											D act. 230 fr., t. p. (ex-c. 23)	juillet 29	3200 3205 3210 3215 3220	7 80	3200	3135	en liquid. au 31 Pr. dem Pr. au 31 Pr. au 15. Pr. au 28. Pr. au 15.	3210	3220 3220 3220 3220 440 3220 4100 3260 4100 3260 4100 3260 4100 3260 4100 3260 4100 3260 4100 3260 4100 3260 4100 3260 4100 3260 4100 3260 4100 3260 4100 3260 4100 3260 4100 3260 4100 3260 4100 3360 4100	3190 3270	32 32
	350.000 1.670		21 juin	juin	15r	15 	8 51	1200 745	880 675	1060	Électricité de la Seine, act. de prior. 250 fr., t. p. (ex-c. 1)	juin 29 (c. 1 att.)	1076	2 65	1080	1059	en liquid. au 31 Pr. dem Pr. au 31. Pr. au 31. Pr. au 28.	1080 · · · · · · · · · · · · · · · · · ·	1087 1100 d10 1100 d40 1135 d40 d40	1075 ::	108
	400.000			décembre.	351	35	24 47	1419	1011	1229	Electricité et Gaz du Nord, act. 250 fr., t. p. (ex-c. 14)	6 déc. 29	1230 1232 1233 1234 1235 1239 1240	3 05	1250	1224	Pr. au 28. en liquid. au 31. Pr. dem.	1233 1240	1250	1235	124
	247.000			juindéc	85f	42 50	29 796	6 4750	3040	8730	Blectricité (Cie Générale d'), act. A 500 fr., t. p. (ex-c. 50)	10 déc. 29	3740 3745 3750 3765 3770 3775 3760 3770	9 20	3780	3710	Pr. au 23. en liquid. Pr. dem Pr. au 15. en liquid. au 31. Pr. au 31. Pr. au 31. Pr. au 31. Pr. au 32. Pr. au 32. Pr. au 33. Pr. au 33. Pr. au 34. Pr. au 35. Pr. au 35. Pr. au 36. Pr. a	3775 3795			370
1	600.000			juillet	50r	50	37 66	1643	1225	1465	Énergie Électrique du Littoral Méditerranéen, act. A 500 fr., t. p. (ex-c. 29)	juillet 29	1470 1465 1470 1473 1474 1475 1476 1478 1479 1480 TERME: Le 14 e ⁴ : 1515 1525 030 au 15 fórrior 1535 1454 020 au 28 fórrior	3 55	1460	1463	Pr. au 15. en liquid. au 31. Pr. dem. Pr. au 31. Pr. au 15. Pr. au 28.	1465	640	1466	148
	\$50.000			juillet	37 150	37 50	28 15	@1360	995	1235	Energie Electrique du Nord de la France, act. A 250 fr., t. p. (cx-c. 24)	juillet 29	1235 1236 1239 1240 1244 1245 1246 1248 1249	3 05	1250	1230	Pr. au 28. en liquid. au 31 Pr. dem Pr. au 31. Pr. au 31.	1250 1256	1256 d20 d40	1250	124
	600.000			15 juillet.	301	30	23 522	1.580	936	1240	Thomson-Houston (Cie Française des Procédés), act. 500 fr., t. p. (ex-e. 41)	15 juillet29	1250 1255 1260 1261 1265	3 10	1260	1235	Pr. au 28. en liquid. au 31. Pr. dein Pr. au 12. Pr. au 12. Pr. au 12. Pr. au 13. Pr. au 31. Pr. au 15. Pr. au 15. Pr. au 15.	1258 1265 1275 1300	1272 1272 1280 d40 1305 d40 1320 d40 1320 d40 d40	1255 1255	126
	600.000			décembre.	251	25	18 85	850	640	628	FORGES, FONDERIES HOUILLÈRES, MINES Acièries et Porges de Firminy, act. ord. 230 fr., L. D. (1996, 128).			7							
	155,000			novembre.		135	98 69		2200	2785	 L. p. (ex-c. 122). E. loctro-Métallurgie de Dives, act. A 500 fr., t. p. (ex-dr., ex-c. 37 ct c. 38). 	15 déc. 29	649 650 652 655 659 860 664 865 669	1 60	650	633	au 31 Pr. au 31. Pr. au 15. Pr. au 28. Pr. au 15. en liquid	652 658 680 2790	670 690 d20 d20 d20 d20 d20	651 2775	66 74
	533.000			décembre	401	25	19 78	2125	1495	1784	 (ex-dr., ex-c. 37 ct c. 38) Porgres et Acièries du Nord et de l'Est, acl. A 250 fr. t. b. (ex-c. 60) 	20 nov. 29	2795	6 70	2750	2750	au 31 Pr. au 31. Pr. au 15. Pr. au 28 Pr. au 15. en liquid.	2790 2795 	2820 2810 d100 2810 d100 d100 d100 d100	2775	282
			1		4						250 fr., t. p. (ex-c. 64)	10 déc. 29	1820 1815 1820 1825 1830 1840 1845	4 40	1800	1760	en liquid. Au 51 Pr. su 15. Pr. su 15. Pr. su 15. en liquid. Pr. su 15. en liquid. Pr. su 15. en liquid. Pr. su 15. Pr. su 15. P	1795	1815 	1800	181
			÷ *		le a l									1 :			Pr. au 13. Pr. au 15	:::: ::	1 d100	:::: ::	1:::

	2	1	-	laterat	of Divis	andias	Gaurs as	trèmes	tillers I		=	Ivaniue.	1	1	100 100	COUR		Mercredi I	R2112.	
de de Titres	l'ériode d'amortis- sement	Dates des Tirages	fipoques de jouissance	Exercise précéd. (brut)	ters. cou	not	dopula lo 1929 (an o Pl. kaut	mplant) Pite bas	do is vollin compt.)	DESIGNATION DES VALEURS	courante	- COMPTANT	Reports Liq. à Fautre	Cours de cospess.	Clôture de la veille	S	1. cours	Plus haut	Plus bas	Deraier com
200.000	ini		mai	42f.,	42	29 396	1350	1075	1350	Rente Poncière, act. 100 fr., t. p. (ex-e. 44)	8 mai 29	1420 1425 1430	3 35	1360	1359	en liquid, au 31 Pr. dem Pr. au 31. Pr. au 31. Pr. au 28.	1438 1445	1449	1420	1420 :: 1450 :: 010 1450 :: 020 :::: : 020
200.000	105		15avroct.	8f	8	0 60	•1260	461	625	Societo Générale Foncière, net. 100 fr., t. p. (ex-dr., ex-c. 18).	8 avril 29	635 637 638 639 640	Pair	640	625	on liquid. au 31 Pr. dem Pr. au 31. Pr. au 15. Pr. au 28. Pr. au 15.	639 642	642 d20 640 d40 d40 d40	635	609 609 609 600 600 600
440.796	1870-1968	18 déc	ianyiuil.	644157	210	152 71	26500	18400	21050	CANAUX S ^{vez} (Canal Maritime de), act. 230 (r., t. p. (a*1 a 25398 et 400001 à 63398)(ex. c. 142).				21000		and an end of the		and the second second		
64.972			Jany-jull.		203 75			18400	20300		janvier 30	TBRME : Le 14 e ⁴ : 21190 plus haut cours . 21150 21400 d300 au 31 janvier 1 21750 22000 d300 au 38 fdyvier	51 	21000	20900	en liquid. au 31. Pr. dem Pr. au 31. Pr. au 31. Pr. au 35. Pr. au 38. Pr. au 38. Pr. au 38. Pr. au 38. Pr. au 38. Pr. au 38.	21095	21250 21650 21650 22200 22200 4200 22200 4200 22800 4200 4200	21800	21100 1100 21400 - 630 21600 - 630 21850 - 630 21850 - 630 22850 - 630 21850 - 630
							24700		19500	 Act. de jouiss. (nº 1 à 56919 el 400001 à 436919) (sx-e. 104)	janvier 30	19220	47.60	19600	19500	Pr. au 28. Pr. au 15. Pr. au 15. en liquid,	19275			22400 - 400 400
100.000	- anno		janv,-juli:					1,1600			1	19200	47 60	10000 11	19209	en liquid, an 31 Pr. au 31. Pr. au 15. Pr. au 28. Pr. au 15.	19275 19375			
84.307	 		janvjuil. janvjuil.	1130r04	407 50 81 50	259 15 51 68	35990	26800	29630 3930	 (SL6 Civile pour le recouvrement des 15 % altributes au Gouvernement civilités (extemp. du c. 51). Chuquièmes (ex-o. 55). (au comptont-settlement) 	6 janv. 30 6 janv. 30		72 40	29800	29875	en llauid. au 31 Pr. au 31. Pr. au 15. Pr. au 28. Pr. au 15.	29300	41000 11000 11000 11000 11000 11000		
584.000	1837-1934	25 juillet.	mai-nov	52,150	20	13 583	1260	1033	1200	CHEMINS DE FER Est, act. 500 fr., b. p. (ex-c. 144)	6ov. 29	1200	2.95	1210	1208	en liquid.	1210			
237.914		25 juillet.	mai-nov mai	32,130	1.1	13 060 24 163	600	551	690	- Act. de joniss. (ex.c. 77)	mai 29	690 681 689	2 95		1.00	en liquid. au 31 Pr. au 31. Pr. au 13. Pr. au 13. Pr. au 15.	1210			······································
800.000 196.787	1907-1933	25 juillet,	mal-nov mal-nov	807 607	20 10	13 90 5 97	1590 1240	1367 923	1590 4 230	Lyon, act. 500 fr., t. p. (ex-c. 144)	nov. 29 nov. 29	1585 1589 1590 1250	3 85	1580	1576	on liquid. Au 31. Pr. au 31. Pr. au 15. Pr. au 28. Pr. au 15.	1595 ::			····· da ····· da ····· da
250.000 67.424	1871-1955	97 ávril	janvjuil. juillet		25 37 50	17 38 97 15		1130 671	1325 800	Midi, aci. 500 fr., t. p. (ex-c. 149)	janvier 30 juillet 29	1300 1296 1275 805	3 30	1340	1337	en liquid. au 31 Pr. an 31. Pr. au 15. Pr. au 28.	1292 1299	ds0 ds0 ds0		1300 ::
525.000 101.604	1865-1950	1= mal.,	janvjuit. janvjuit.	1001 841	20 12	10 76 5 526	2720 2260	2205 1730	2615 2260	Nord, act. 400 fr., 1. p. (ex-c. 147)	janvier 30	2815 TERME : La 14 c' : prime d40 au 15 février nulle lire : 2740 d40 au 15 février 2250	6 35	2600	2630	en liquid. nu 31 Pr. dem Pr. au 31. Pr. au 31. Pr. au 15. Pr. au 28. Pr. au 15.	2600	2625 2660 440 440 	2605	2010 ::
600 000 303.260	1853-1931		avril		15	9 71 43 90	1458	1226 785	1485	Orléans, acl. 500 fr., l. p. (ex-c. 153)	ociobre 2		3 55	1460	1455	Pr. au 15. en liquid. au 31 Pr. au 31. Pr. au 15. Pr. au 28.	1480 1480			1420
300.000	944 944		juin-déc	150f.	125	89 90	2993	2790	2990	 Act. da joniss. (er.c. 15)		a second se	7 50	3000	2970	Pr. au 28. en liquid. su 31 Pr. au 31. Pr. au 15.	3000	1010 **	2995	3005 3005 440
800.000 99.960	1898-1953	7 juin,	mai	851 27 (50	35 97 50	925 91 90 53	1400 1030	10 <u>95</u> 700	1958 930	Métropolitain de Pacis, act. 230 (r., l. p. (ex-c. 28). Act. de jours. (ex-c. 21). (au comptant seutement)	- jaülei 29 jaillet 29	1260 1265 1268 1269 1270 1272 1274 1275 951	3 10	1270	u-1240	en liquid, au 31 Pr. au 31. Pr. au 15. Pr. au 28. Pr. au 15. Pr. au 16. Pr. au 16. Pr. au 16. Pr. au 31. Pr. au 31.	1275 1280 1285	4100 4100 4100 4283 4283 4283 4283 4283 4283 4283 410 4200 4283 410 4200 4283 410 4200 4200 420 420 420 420 420	1265	1280 d1/ d2/ 1320 d2/ 1320 d1/
286-000	- 111-		juin-dée.	65r.	32 50	24 690	\$800	8075	2800	EAUX, ÉLECTRICITÉ Eaux et de l'Ediairage (Sid Lyonnelse des), acl. C 250 hr., L p. (n** 240001 & 545000) (exc. S)) déc. 29		9 20	3770	3755	Pr. au 15. on liquid. au 31. M	3825 ···	3845 d100		3820 ::
240.000 400.000			juin-déc juillet	52150 631	96 25 65	19 88 45 62	4400 3170	2600 2110	3325 3165	 Act. 0 de joniss. (nº 1 à 210000) (ex-c. 18). (au complant seulement) Distribution d'Electricité (Gie Parisienne de) act. 29 (n. t. p. (ex-c. 23). 	déc. 29	3335	7.80	3200	3135	on liquid. au 31 Pr. au 31. Pr. au 15. Pr. au 28. Pr. au 13. en liquid. au 31		4000 0100	3805 3190	3215 - 49
		1									1					en liquid. au 31 Pr. dem Pr. au 31. Pr. au 15. Pr. au 15. Pr. au 15. Pr. au 15.	3210	3220 d40 3220 d100 3260 d100 3300 d100 3300 d100 3340 d100	3270	3275
\$50.000 1.670		21 jain 	juin	15r	13 	8 51	1200 745	880 675	1060	Electricité de la Seine, act. de prior. 250 (r., l. p. (ex-v. 1)	juin 29 (c. 1 ait.)	1076	2 66	1050	1059	en liquid. au 31 Pr. dem Pr. au 31. Pr. au 15. Pr. au 25	1080 ··· 1087 ··· 1098 ···	1087 1100 d10 1100 d40 1135 d40	1075	1082 - 431 1125 - 431 1180 - 434
400.000			décembre	351.	35	84 47	1419	1011	1229	Electricitó et Gas du Nord, act. 230 fr., t. p. (ex-c. 14),	6 dec. 29	1230 1232 1233 1234 1235 1239 1240	3 05	1250	1224	en liquid. au 31 Pr. dem Pr. au 31.	1233 1240	1250 440 440	1235	1245
247.000	date	****	juindée.	851.	42.50	29 796	6 4750	3040	8730	Electricité (Cie Générale d'), act. A 500 fr., i. p (ex-c. 50)	. 10 déc. 2	8 3740 3745 3750 3765 3770 3775 3760 3770	9 20	3780 .	3710	Pr. au 15. co liguid. au 31 Pr. au 31. Fr. au 15. Fr. au 28	3775	d40		3760
600.000			juillet	507.	50	37 66	1643	1225	1465	Energie Electrique du Littoral Mediterranéen act. A 500 fr., L. p. (ex-c- 29)	juillet 29	1470 1485 1470 1473 1474 1475 1476 1478 1479 1480 TERME : Le 14 e ¹ : 1515 1525 dB0 au 15 février 1535 1545 dB0 au 15 février	3 55	1460	1463	on liquid. au 31 Pr. dem Pr. au 31. Dr. au 31. Pr. au 31. Pr. au 31. Pr. au 31. Pr. au 32. Pr. au 32. en liquid. au 31 Pr. dem Pr. dem Pr. au 35. en liquid. gr. au 35. Pr. au 35. en liquid.	1465	1485 d40	1466	1483 - 429 929
450.000			juillet	87 /5/	37 50	28 18	●1360	990	1235	Energie Sleebrique du Nord de la Prance, oct. 4 250 fr., b. p. (ex-e. 24).	juillet 29	1235 1236 1239 1240 1244 1245 1246 1248 1249	3 05	1250	1230 .	Pr. au 28. en liquid. au 31 Pr. dom. Pr. au 31. Pr. au 35.	1250 1255	1525 040 1256 	1250	1255 dil 1255 dil 125 125 125 125
600.000	in.	-	18 juillet	30 f.	80	23 522	1380	936	1240	Thomson-Houston (Cie Française des Procedés) set, 300 fr., t. p. (0x-c. 41)	. 15 juillet2	9 1250 1255 1260 1261 1265	5 10	1260 .	1235 .	Pr. au 28. en liquid. au 31 Pr. dom. Pr. au 31. Pr. au 31. Pr. au 28. en liquid. au 31 Pr. au 32. Pr. au 31. Pr. au 31. Pr. au 31. Pr. au 32. Pr. au 33. Pr. au 33. Pr. au 33.	1258 1265 1275 1300	1272 420 1280 440 1305 440 1307 440 1320 440	1255	1252 - 81 1315 - 81 - 83 - 83
400.000			décembre	231.	- 95	18 8	850	440	628	HOUILLÈRES, MINES Actories et Forges de Firminy, act. ord. 250 fr.	15 déc. 2	-	1.60	650	633		652 658 :: 680 ::			1.0
155.000			novembro	1257.	135	98 65	1930	2200	2785	 t. p. (ex-c. 153). Electro-Netabiliurgio de Diven. act. A 500 fr., t. p. (ox-dr., 0x-c. 37 et c. 38). 			1 60	2/50 .	2750 .	Pr. au 31. Pr. au 15. Pr. au 28. Pr. au 15. en liquid. au 31	680 2790 2795	670 dy0 690 dy0 dy0 dy0 dy0 2820	651	0668 and 740 and 899 2820 and
523.000			décembre	40f.	. 25	19 77		1493	1784	Forgos of Acidrics du Nord et do l'Est, not. J 250 fr., 1. p. (0x-c. Gi).			4 40	1800 -	1760 .	Pr. au 31. Pr. au 15. Pr. au 28 Pr. au 15. eu liquid.	1795	2810 d100 d100 d100	2775	201 201 201 201
	1				1					and the fr. [DX:03 Ge].		THE THE PART THE PART OF THE THE	3, 40	inter i		en liquid. au 31		1815 d20 	1820	1825 (0) (18 (18) (18) (18) (18) (18) (18) (18)

AFTER

6																		Mercredi	15 Janvi	ier 1930
Ensiensi den Koprasis	Période	Dates	Bpoques	Intérôte Exercite précéd.	et Divi	dendes	Cours es ésysia le	fatter m	Elitera		Jouissagee					COUR	S DD	PERMB		
Eculusi des Rograsis stats os parètre de Titres	d'amortis- sement	des Tirages	de Jouissanco	fisreite précéd. (hmit)	bent	net	1229 (as to Pt. bant	Ples bas	velije	DÉSIGNATION DES VALEURS	courante	COMPTANT	Reports Liq. à l'autre	Cours de compens.	de la veille		1** cours	Plus baut	Plus bas	Dernier o
360.009			juillet	857	33	28-93	• 150	268	865	Patto Bintma, act. a de Jouiss. (ex.dr., ez.e. 48).	noût 29	334	8-73	300	299	en-Hquid.	384	===	1111	303 7.
				1				1								Pr. dem. Pr. au 31. Pr. au 35. Pr. au 36. Pr. au 35. Pr. au 35. Pr. au 35.				1097. e
			-																	
207.000			juillet	615_		29-96	9 800	806	766	Ast. A 60 capital 190 fr., 1 p. (n - 500001 'a 507000) (ax 6r., ex-e. 68)	800t 23	A39	2-8	330-,-	339	au 31 Pr. au 31	396~			3287.
			1.1													Pr. au 31 Pr. au 13 Pr. au 28 Pr. au 15 an-Houla	810 815			
369.000			juillet	701	70	54-55	1069	685	State	Pargeot (Automobiles), act. 85091. (ex-c. 22).	23 mai 89	808 809 816 811 814 815 817 ***********************************	2	820	814	Pr. dem. Pr. dem.	815-	825 / d26	814-1	820 7. 840 - 0 850 - 0 805 - 0
																au 81 Pr. dom. Pr. au 31 Pr. au 15 Pr. au 28 Pr. au 15		825 / . 830 . d40 	870-11	850 - 6 895 - 6
370.822			janvier	1001	100	71-87	2478	1970	2065	Raitmeries at Succession Hay, set 200 fr., t p.	janvier 30	2850 - 2860 - 2678	-	2059	2035	on liquid.	2045	20757. die dies	2050	2070
-													0.57			Pr. 60 81 Pr. 60 81 Pr. 60 15 Pr. 60 15 on liquid au 81 Pr. 60 8 Pr. 60 8 Pr. 60 8 Pr. 60 8 Pr. 60 8 Pr. 60 15 Pr. 60 15		4100 0100	/	2145
252.000	- 101		Juin	1001	200	11-20	2460	1010	2000	Union Haropeane Industrielle et Financière, ast. 2-500 fr., 5 p. (2* 195001 à 555000) (droit de voie, statute) (az.e. 19).	juillet 29	2865-2070-2075	5	2060	2055	en liquid	2065	2085	2050	2985
R			a.		1					FONDS D'ÉTATS ÉTRANGERS						Pr. au 31. Pr. au 15. Pr. au 28.	2110-	2005-11 2005-11 2120 d40 0100 0100 0100		2985
141211-244	4896-4970	1. janv.17- 1. juil. 17.	janyavr				17.95	6 10	8.90	(Groupe-4) Russis-Consolidé 4-N,-1"-at 2-séries. Oblig-20 frronte.	oct 1918		0.02		8.00	Pr-au-16.	8-05			
	1000-1010	- Jan 14.	Junice off				17 95 95 95 17 95 95 17 95	6 10 6 10 6 10 6 10	8-20 8-20 8-26	Oblig 20:17, reste. Oblig 100-fr. Oblig 20:5 fr.	001. 1918	8150 8150 8150 8150		0	0.00	en liquid Au 31. Pr. au 31. Pr. au 15 Pr. au 28.				1
1,365,040,344	1917-1936	1- fev. 17.	mai-nov					6 25 6 40 6 50	8-50		nor 1918	8/25	8-92	8	8-65	en-Hould.	1			
-							15 50	6 50		6-128-fs		9/%				au 31 Pr. dem Pr. au 31 Pr. au 15		1000 Hart		1
(1806-1967	14 avril- 14 octobro					172 172 172	140	160	Serbis-4 %-smort_1836 (Menopoles 1-reags. (Consulter-tiste der (. 6. 2) fr. reete. tilres non livrables) - 6.100 fr.	juillet 23	10	8-40	161-	161	en liquid au 81 Pr. eu 81 Pr. eu 15 Pr. eu 15	105			
355.292.010	-		•		•					(+6.100.fr	-	163%								
-			janvjuil.	4-%	2.%	1 36 96	141 78 141 78 141 78	110 110 110	128	d C. 100 fr. rente Jouiss coursuits.	janvier 30	127	8-31	124	123-75	Pr. su-Si.	128 50	1297. est	128-50	128-16
	10.10		14 mars-	-					95~	Turquia - Batte Ottomane Cour - Butfice 6-5-						Pr. su 28 Pr. au 15 on liquid	95-26 95-80		/94-98	alere 1
550,815,000	1904-1963	Rachats	septembre	}	pap-ebi.	metus 18-%	114 75 114 75 114 75	87 91	95-90	Tarquia - Dette Ottomane Cont - Unfifer 6 % Obilg 20 fr. reste - Obilg 100 fr Obilg 500 fr Obilg 500 fr	14 sept-25	95/35 95/35	0.23		93-75	en inguid av 3 Pr. su 3 Pr. su 3 Pr. su 3 Pr. su 3 Pr. su 3 Pr. au 1 Pr. au 3 Pr. au 3 Pr. au 3 Pr. au 5 on inguid ar 1 on inguid		95-80 684 684	94-99	
501.010.059	1914-1961	Rachats	14 mai-nov		742-4H	thougo motos	104 50	75 50	85 90	- Ottoman 5 %-1914. Oblig. 25-fe-rente.	14 nov. 25	85f65	0-21	85-50	85-25	Pr. au 18 ea liquid au 31	85-50	86.60	85-80	20.38
				-	12-66-0	18-%				VALEURS ÉTRANGÈRES				1		Pr. dem Pr. dem Pr. au 31 Pr. au 35 Pr. au 35 Pr. au 15	86 50	30 75 aus 30 50 aus 30 50 aus 404	85-15	
817-758							828	490	635	(Groupe-1) Banque Nationaie du Merique, act. 100 p. 1. p. (p. 1 + 920000) (ex. e. 58)			-			en Hauid	675-			
					•	-	828 828	490 490	695	Coup de 5.	juin 1913	555-659 660 665 680 694	1-60	650	548	84987 Pr. dem Pr. su 18 Pr. su 18 Pr. su 18 Pr. su 18	AN STANK	784 760 640 746 640 746 640 730 640 629	679 685 765 765	598 799 725 759
. *				•	+			_								Pr su 18 Pr su 18	705	730 - d40		759
500.000			juillet	2613-6	20.5.0	2 8+5+0	1950 1950 1940 1940	1183 1126 1123 1150	1490 1490 1499	- Ottomaes, act. 600 fr., 250 fr.p. (ex-c.69). Goap. de 5	9 juillet 25	1495 Ret & payer	3-45	1428	1485	Pr. 40 15 on ingatt at 35 Pr. 400 Pr. 40 15 Pr. 40 15 Pr	1412 1	14307. 440	1445-11	1422
408.000			térrier	5113110	Ta in	113.10	1940	1150	4156	Coup-de to			1			Pr. su Sk Pr. su Sk				
										C (62-4, 55)	7 167. 29	4135 - 4150 net-a-payer	10	4120	4135	84-81 Pr-84-34 Pr-84-35	4135	4190 d 100 4250 d 100 d 100 d 100		
3-159-000	Same		msi	20 f. b.	20.6.8		910	CIA	874	Wanna Life and and 400 fr + p (ar.s. A)	01 mai 90	587 524 500 523 505 505		E20.	ET.	Pr. su th en tiquid	687		682	
					-											en liquid au St Pr-dem Pr-su St Pr-su St	/ ::: ::	6947. 140 140 140 140 140		784
455.000			mai-nov	(16 sh.	8-sh.	8-sh.	2500	2120	2395	Cutral Mining and investment Corporation	7 460. 29	2100		2150.	2200	Pr. 60 28 Pr. 60 16 on Highl Pr. 60 Pr. 60 31 Pr. 60 31 Pr. 60 31 Pr. 60 31	23416-11	120		
					-		2540 2483	2090 1990	2860 2860	Coup. de 5.	7 dec. 29	2390	5-65	2310	2300	Pr. 6em. Pr. 80-31				2300-2:
1.659.000			avril	16-Ht	18-111	18-111	390	840	315	Hostocatial - ISLG Générale pour l'industrie Ministre et Agricole, act 100 ff. L p. (nº 1 - 375000 100007 & 112000 30001 à 3150000 200001 a Stenne, 100001 à 415000 et 320001 h 415000 (or e. 31						TT-84 10				
						:	390 390	330 330 528	310	(ex-e.Bi)	8 avril 25	365-361	0-86	360	355	an liquid au 81 Pr. dem	/			
	_						390 390		385	Goup. de 25		369 - 355 - 354 - 357			1	Pr. dem. Pr. dem. Pr. au 31 Pr. au 35 Pr. au 36 Pr. au 16		110 110 110 110		
455.000			mai-nov	2-8	21.5.0	21	●8150 €(50)		- 5990	Rie-Tinlo Campasy Ld. set. ord. 5-E. t. p. (n= \$25001 1 150000) (ex-c. 61)	9 nov. 29	5845	16-10	5800	5825-				5899 7.	5725
				1.	4.		8190 8175	4900	5960	Coup-de-Barrow		5840		-		Pg au in Pg au in	5985	6000 640	5893 T. 9865 5959	5875 6180
995.918			novembre	6 kr. 64	Skr.64	Sky.64	8140 8595	4875 2000	5870 9350	Coup de 20		5815				autoria anti- presentational anti- anti		6993 6299 6993 6299 6145 6299 6145 6299 6145 6299		5725 T. 5826 5875 6100 6125
	1									A sols of de Porese Bydro Biestriques (Bté Norré gionne de l'), ach ord. 180 c. ou 200 fr., t.p. (oz. e. 21)	23 déc. 29	2400 - 2380 - 2406 - 2405 - 2410 - 2415 - 2420	5-80	2380	2380	en liquid au 31 Pr. dem	2400	24307	2395 11	
_			févjuillei							and the second s	-		1			Pr. 80 15 Pr. 80 15 Pr. 80 18		24397		24207.
403.000			novembre.		2 9.8.9	02.8,6	609 605 600	345 339 320	414	Lautare Nitrate 6y Ld. act. 5 S. t. p. (nº 1 - 1 340000 et 430001 a 57500) (eren 45) (e. 68 att.) Goup de 10 Goup de 20	8 janv. 30	420	8+98	400	400	02-fiquid 24-31 Pr. 44-31 Pr. 44-31 Pr. 44-35 Pr. 44-28 Pr. 44-28 Pr. 84-15		198 199 199 199 199 199		
							600	520												1

	21400 22 21400 22 400 21400 21400 2400 21400 21400 2400
	21800 21860 00815
	-
	38
	1111 11 1100 1138
	8805 9810 18
	1111 11 1120 II am
	2955 :: 3005 :: 315 315
BRE 0000 Inter-con Rest Res Res Rest	5605 11 5620 11 100
	8160 8816
	10110 11 10110 11 11
	1444 II 1144 II II
	1200 1200 1200 1310 1200 1200 1200 1200
	111 11 1 11 11 11 11 11 11 11 11 11 11

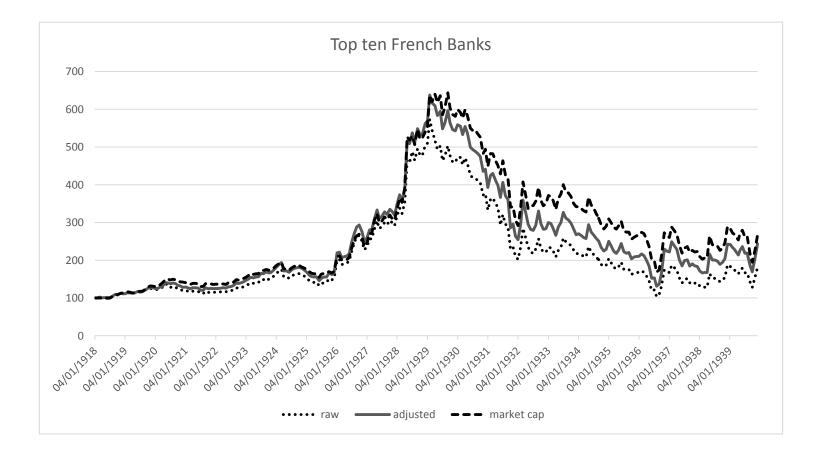




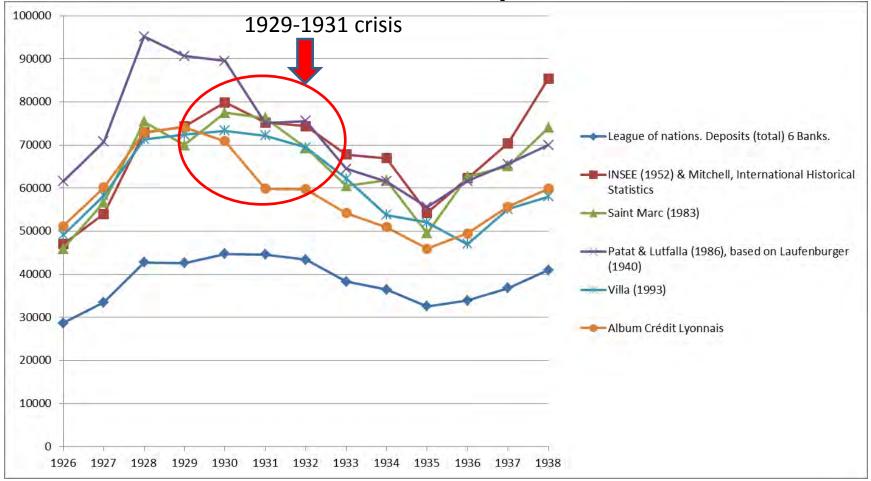


At the end of the day

- Many experiments
- Many failures
- Some success....



Album Comparison with previous series of deposits



EURHISFIRM European Long-Run Firm Data

H2020 – Infrastructure Development Project











RSM



international institute of social history



INSA INSTITUT N DES SCIENT APPLIQUÉE RENNES



Y Leibniz-Institut für Sozialwissenschaften

EURHISFIRM

- RESEARCH INFRASTRUCTURE that collects, connects, and shares LONG-TERM HIGH-QUALITY DATA on EU COMPANIES
- Innovative technologies to spark the "BIG DATA REVOLUTION in HISTORICAL SOCIAL SCIENCES": Scaling up quantity, quality and variety of available "born-on-paper" data on EU companies
- "Flexible" OCR technologies + data warehouse + friendly browsers and data visualisation

Thank you!





Djordje Hinic, Business Development Manager

Understanding Forecasting Better decisions





Data security & storage problem





€ 28 mil

ultimate data solution

pio





Opops, your files have been encrypted!

What Happened to My Computer?

Your important fills an incrypted

Many of view documents, photos, and eos, databases and other piection serlumps: accessfible to scale others have been encrypted. Maybe you are huse looking for a very to recover your file, hub to not wante your time. Naundy can recover your files writings Our damy/itten outstorn.

Can I Recover My Files?

Churk Dassart

Sure. We manantee that you can receive all your files addly and series. But you have nettic subjection

Y an gan derwypt some of your files for free. Try new by clicking - Bears ptv. But If you want to decrupt all your files, you need to park. You only more 3 does to submit the payment. After that the price will be doubled

Also, if you don't pay to 7 dams, you work I be able to recover your filles for every We will have free events for users who are to poor that they couldn't pay in 6 months.

How Do I Pay?

Payment is accepted in paroin only. For more information, clinic «About intention, Please check the current price of Blicoin and buy state hiteriny. For more information, click ... How to hur bitroms. And read the correct amount to the address specified in this wondow.

After your payment, click «Check Payment) Best time to check 9.00 are 11:00 are

Send \$300 world of bizzoin to this address: bitcoin 115p7UMMingoj1pMvkpHijcRdfJNXj8LrLn ACKERTED HERE

GH tech

English

Ovting-them

Ransomware attack: Who's been hit

by skickle visitiles and JH Deals. MICRIMINATES. Calving in the state and states

CALEFT-Safe

Massive ransomware at Global ransomware at COUNTRIES why Apple wouldn't hack terror

'elefónica hack: Ransomware attack on nternal network forces computer shut do



The world's biggest cycerattack has hit at least 150 countries and infected 300,000 machines since it started spreading last Friday.

The acting include bogstak, universities, manufactures, and paventinent agencies in countries. use Gritain, Chine Russie, Germany and Scials.



Manual Street, or

Hardy has been

Payment will be raised on

5/15/2017 14:57:41

Time Left.

02:23:58:02

Your files will be last on

5/190317 14:57:41

Time Left

06:23:59:02

Contact Us

"best practice" myth



lessons

Ultra-secure data storage



It must be impossible to modify or delete.

Unalterable

Common

Flexible



It should be able to store any kind of files; digital and visual.

Long-term digital preservation

Migration-free:

It must be migration-free to avoid the risk of data loss and the migration cost.

piql

Future-proof

Data retrieval process must be independent of technological obsolescence.

Permanent



It must be scientifically tested for 500 + years longevity.



It must be protected from cyber attacks, logical threats, EMP and physical threats.



Searchable It must be searchable.

"Unplug" Virgil Gligor

An integrated turnkey solution



piqlWriter

Writes data onto the piqlFilm. The piqlWriter is a high-speed industrial grade data writer utilizing Piql's proprietary, sophisticated software

piqlProcessor

Develops the piqlFilm and makes the data readable and permanent

piqlBox

A box/cartridge developed to protect the piqlFilm. The piqlBox constitutes newly developed polymers with 500 years + longevity



piqlVault

A robotic vault for safe, space efficient and automated storage of piqlBoxes

piqlReader

Reads data off the piqlFilm using open source software

piqlFilm

A newly developed nano-technology 35mm ultra-high resolution film optimized for digital storage, with documented 500 years lifespan







and many more...

Instability

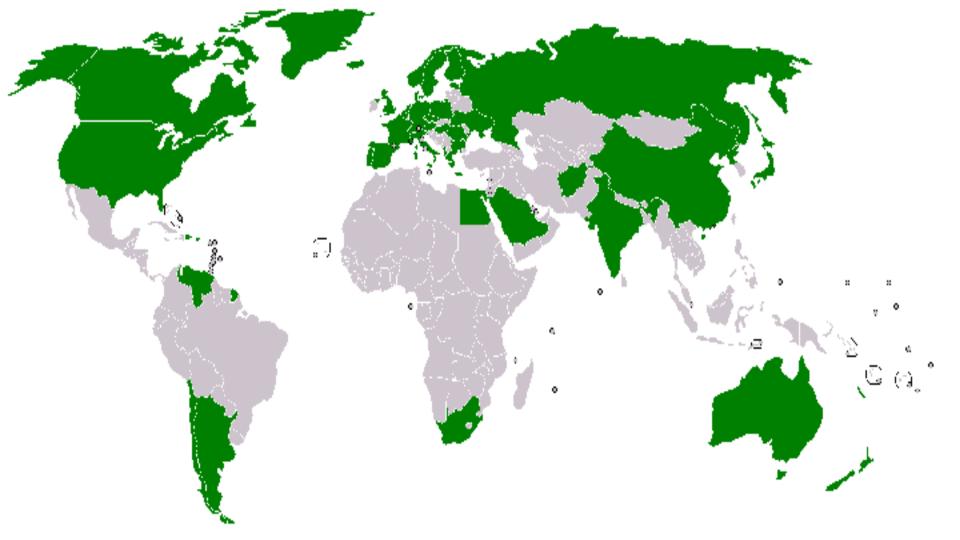
......

Safest place?

C 2019 Crodins: Ut Bit D 2015 Cooper of POPTage Landred Char et Core Creasant le earth

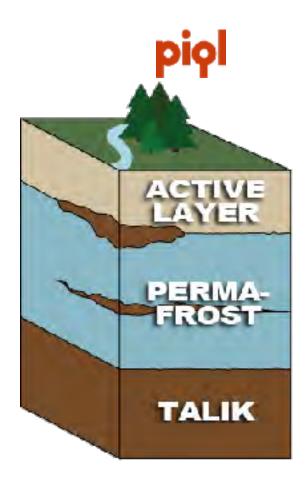
Seed vault

Arctic World Archive



Protected by polar bears & permafrost







Grandstation international file.

Interested in learning more?





www.piql.com



https://vimeo.com/106280961



"What we do - behind the scenes" http://cld.bz/8JK9G0y



"When quality matters" <u>http://cld.bz/h38aCa</u>



"Alternative storage technologies" <u>http://cld.bz/</u> <u>2zaEa</u>

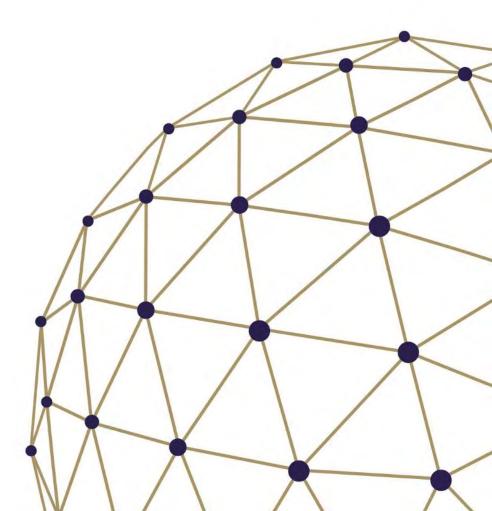


Follow our updates on LinkedIn | Facebook



The data dilemma: a risk or an asset ? Privacy, confidentiality, security and consumer protection

Kertész Ákos Senior Supervisor Zagreb, 10.11. 2017





Introduction to basics

What is data ?

Definition

Data is a set of values of qualitative or quantitative variables. Pieces of data are individual pieces of information. Data becomes information by interpretation. **Data is a series of symbols**, while information occurs when the symbols are used to **refer to something**.

Usage

Data is measured, collected and reported, and analyzed, whereupon it can be visualized using graphs, images or other analysis tools. Data as a general concept refers to the fact that **some existing information or knowledge is represented or coded in some form suitable for better usage or processing**.

What kind of data?

Financial data

Financial data consists of pieces or sets of **information related to the financial health of a business, or a person**.

People and organizations outside a business will also use financial data reported by the business to judge its credit worthiness, decide whether to invest in the business, and determine whether the business is complying with government regulations.

Big Data

The term 'Big Data' is used to describe the collection and analysis of data on a scale or of a complexity that makes the use of such data challenging.



Big Data Getting values from "shared" information

Why Big Data?

- This world is moving fast as data becomes more accessible, attributable and analytical.
- Sitting behind the surge in digital services is data and therefore data is of increasing importance to all organizations
- It can help businesses and entrepreneurs to identify areas of opportunity for innovation in **new products**, processes and services; improve customer engagement; identify inefficiencies; **improve productivity**, identify market trends.





Big Data Financial usage

Example

Credit scoring

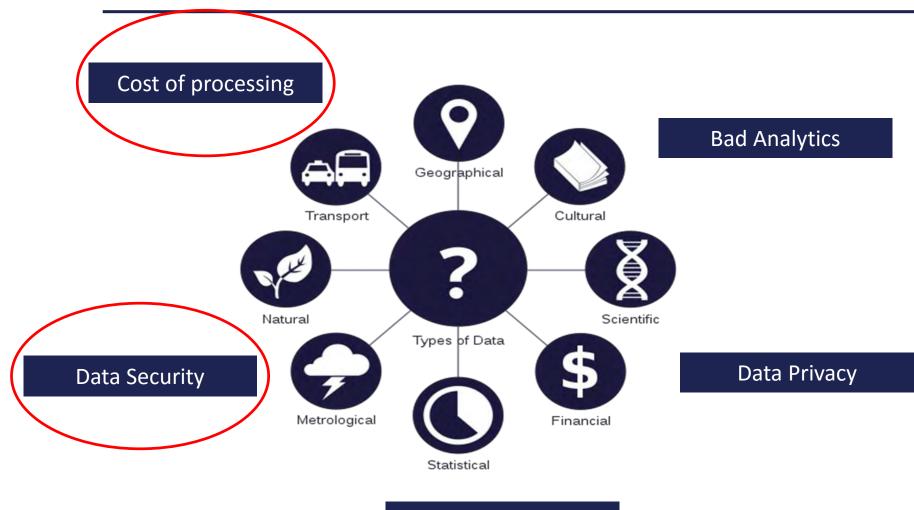
Traditional credit scoring use information provided by customer (payment history, types of credit used, length of credit history,..). In case the customer has insufficient credit history, Banks **can not calculate the risk**.

In the era of 'Big data', credit decisions may be based not only on credit information but also on a wide variety of **non-traditional data** that are not directly related to creditworthiness. Following an approach that "all data is credit data", Banks can identify patterns and habits of customers, which may drive to creditworthiness, so new customers can access to credit.





Which are the risks related to data? Gathering, storing, processing



Bad Data



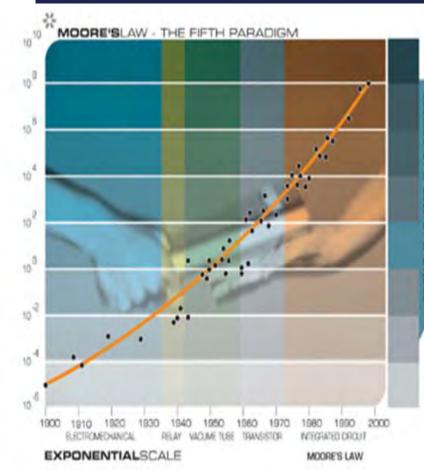
Risks Cost of data processing

Huge amount of data

- The data volumes are exploding, more data has been created in the **past two years** than in the **entire previous history** of the human race.
- Every second we create new data. For example, we perform 40,000 search queries every second, which makes it 3.5 billion searches per day and 1.2 trillion searches per year.
- Social Network users send on average 31.25 million messages and view 2.77 million videos every minute.
- Over 1.4 billion smart phones were shipped in 2015 all packed with sensors capable of collecting all kinds of data, not to mention the data the users create themselves.
- Within five years there will be over 50 billion **smart connected devices** in the world, all developed to collect, analyze and share data.
- At the moment less than 0.5% of all data is ever analyzed and used.



Risks Cost of data processing



Increased computational power

The Law of Accelerating Returns

Technological change is exponential, contrary to the common-sense "intuitive linear" view.

Computer speed (per unit cost) doubled every three years between 1910 and 1950, doubled every two years between 1950 and 1966, and is now doubling every year. Chip speed and cost-effectiveness, also increase exponentially.



The financial sector is under fire

In general

- Financial data is a popular target for criminals and **cyber-attacks**, however the need of **sharing information**, and the potential benefits of analyzing data have growing tendency.
- Cyber criminals can **easily monetize** the wealth of data financial institutions collect either by selling that data on the dark web or using the data to conduct fraud.

In details

- The financial services industry is the most breached industry, accounting for 35% of data breaches.
- 68% of financial services firms experienced multiple successful attacks in 2016.

Accessing systems to fraudulently transfer money or using personal information of customers for identity theft are two examples of financially motivated misuse.



Risks Data Security

	Incidents			Breaches				
	Total	Small	Large	Unik	Total	Small	Large	Unk
Total	42,068	606	22,273	19,189	1,985	433	278	1,224
Accommodation (72)	215	131	17	67	201	128	12	61
Administrative (56)	42	6	5	31	27	3	з	2
Agriculture (11)	11	1	þ	9	1	0		c
Construction (23)	6	з	-1	2	2	1	0	1
Education (61)	455	37	41	377	73	15	15	43
Entertainment (71)	5,534	7	з	5,524	11	5	3	3
Finance (52)	998	58	97	843	471	39	30	402
Healthcare (62)	458	92	108	258	296	57	68	171
Information (51)	717	57	44	616	113	42	21	50
Management (55)	8	2	з	3	з	2	1	0
Manufacturing (31-33)	620	6	24	590	124	з	11	110
Mining (21)	6	1		4	3	0	1	2
Other Services (81)	69	22	5	42	50	14	5	31
Professional (54)	3,016	51	21	2,944	109	37	8	64
Public (92)	21,239	46	20,751	442	239	30	59	150
Real Estate (53)	13	2	0	11	11	2	0	9
Retail (44-45)	326	70	36	220	93	46	14	33
Trade (42)	20	4	10	6	10	з	6	3
Transportation (48-49)	63	5	11	47	14	3	4	7
Utilities (22)	32	2	5	25	16		1	14
Unknown	8,220	з	1,089	7,128	68	2	15	51
Total	42,068	606	22,273	19,169	1,935	433	278	1,2224

Table 1. Number of security incidents by victim industry and organization size, 2016 distant.



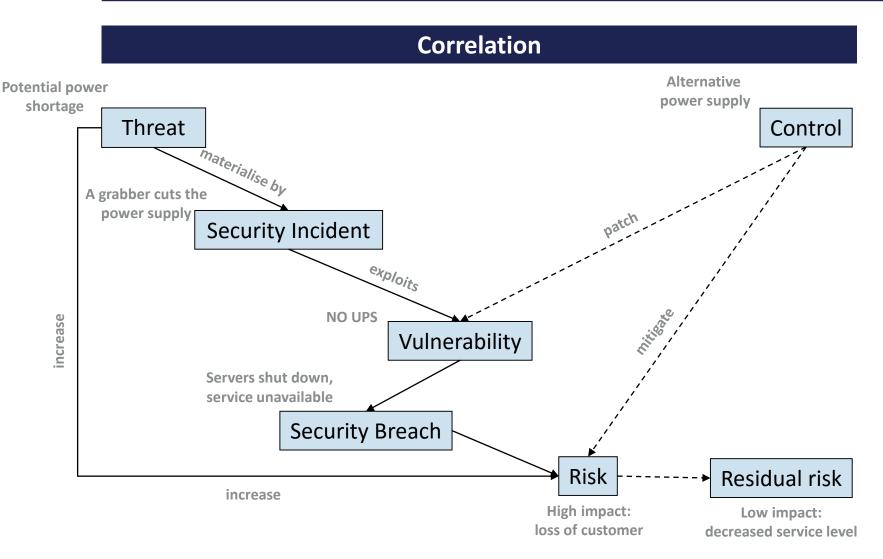
Cyber threats

Financial services firms fight an escalating and asymmetric war against cyber-attacks and internal threats. To effectively prioritize cyber defenses, financial institutions must understand the cyber threats they are up against.

The most frequent cyber security threats financial services firms must address:

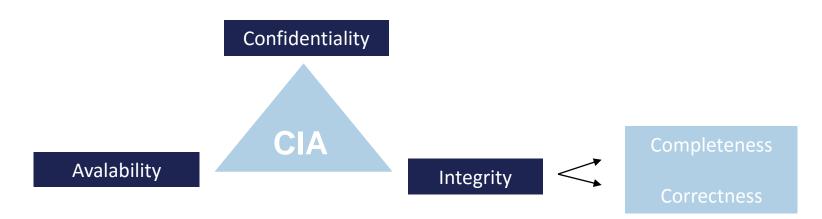
- 1. Distributed Denial of Services (DDoS) attacks
- 2. Web application attacks
- 3. Data Theft or Breach
- In 86% of cases where data was stolen, financial sector systems were compromised in minutes or less.
- In 69% of cases, financial services victims didn't discover a security incident for weeks or months.
- 4. Insider Threats
- 30% of phishing messages were opened
- 12% of targets clicked to open the malicious attachment







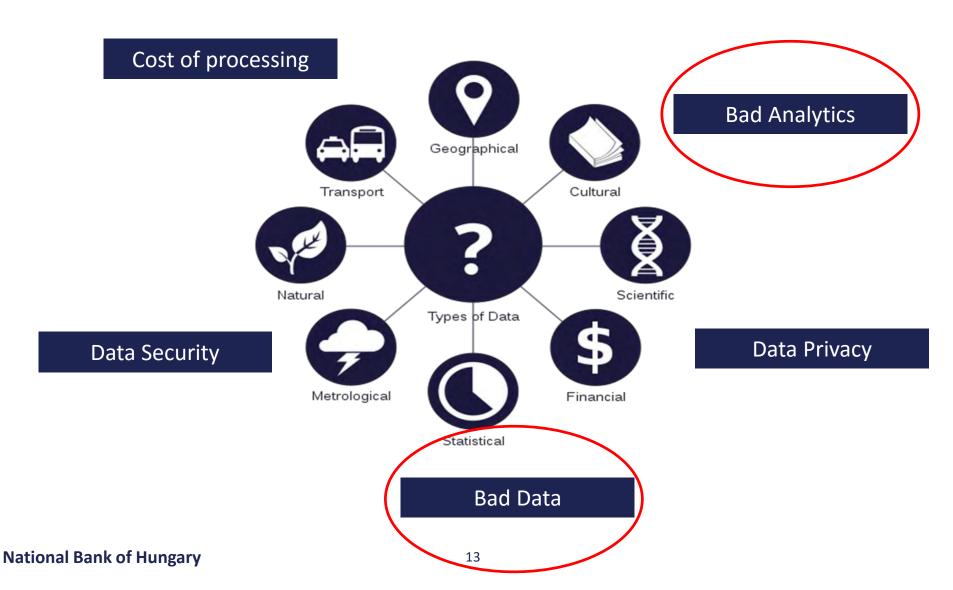
Fundaments of security and control measures



Preventative	Detective	Corrective	Compensatory
Security Awareness Training	System Monitoring	OS Upgrade	Backup Generator
Firewall	IDS	Backup Data Restoral	Hot Site
User Right Management	Anti-Virus	CSIRT	Encryption
Security Guard	Motion Detector	Vulnerability Mitigation	



Which are the risks related to data? Gathering, storing, processing





Risks Bad data, bad analytics

Data Scientist

Data scientists combine statistics, mathematics, programming, problemsolving, capturing data in ingenious ways, the ability to look at things differently to find patterns, along with the activities of cleansing, preparing, and aligning the data.



- New channels and new data
- Complexity of interactions
- Data quality and consistency
- Extracting business value
- Lack of Big Data skills



Risks Bad data, bad analytics



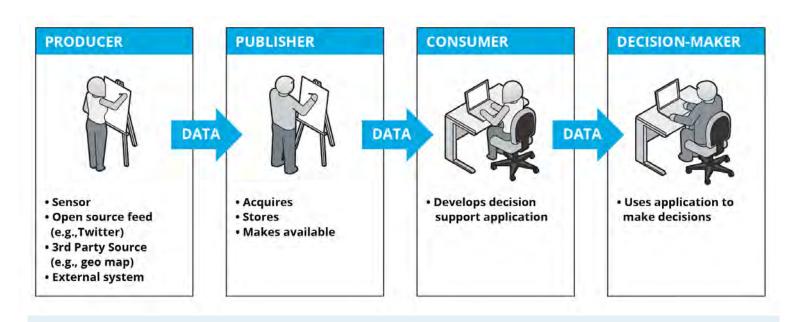
Data management strategy

- 1. Learn how to collect the right data the right way
- 2. Inventory your data
- 3. Fill gaps in your data and analytics capabilities
- 4. Hire experts who can make data tell a story
- 5. Make data and statistics visual
- 6. Offer data-driven thought leadership



Risks How to use it, and for what?

Data has a value chain



Customer – Fincial Institution – Fintech Company– Added Value



Which are the risks related to data? Gathering, storing, processing



Bad Data



Data Privacy





- Data vulnerability and fraud ?
- Transparency and trust ?
- Understanding of data usage ?

- Data security
- Outsourcing, partnership
- Need to know, need to do
- Consumer education



Supervisor's dilemma

Consumer, data and market protection



Unfair advantage

Fintech companies using big data have competitive advantage comparing to the strictly regulated banking market

Consumer protection?

Increasing risk of fraud or any loss making event, which harm the investors/depositors

Solution: Unified, international regulation

Losing control

The risk of the spread of crossborder services (the Internet can not be stopped at borders)

Barriers for innovation

Maintaining the expensive banking model and cutting back on development



Regulations Consumer, data and market protection

				Regulatio	ns		
	Unfair Comme Practices Directive on Electronic			E-Commerce Directive		Banking secrecy rules impose restrictions to the use of consumer data by financial institutions	
Communica	tions and P	rivacy	Unfair Contract Terms				
	Marketing	on Distanc g of Financi rvices		Payment Se	ervices Di	rective	recommendation on the use of community and
						lortgage	public cloud services (HU)
GDPR the 'right to be forgotten' access to one's own data the right of data portability				Consumer Credit Directive		Credit irective	
		/				Payment	Accounts Directive





Conclusion

To be successful on these topics is not only prepare more strict regulations and provide an even more secure infrastructure, but institutions should handle data in a different way.

Collecting, storing and using data is not enough, we should provide a structured **Data Governance** approach.





Data Governance Methodology



Source: The Data Governance Institute (2014)



Source: DAMA International (2009)



Thank you for your attention!

Kertész Ákos CISA, CISM kertesza@mnb.hu





Wikipedia (2017): Data https://en.wikipedia.org/wiki/Data

Forbes (2015): Big Data: 20 Mind-Boggling Facts Everyone Must Read

https://www.forbes.com/sites/bernardmarr/2015/09/30/big-data-20-mind-boggling-facts-everyone-must-read/#5acafb0f17b1

Ray Kurzweil (2001): The Law of Accelerating Returns

http://www.kurzweilai.net/the-law-of-accelerating-returns

Imperva (2016): Top 4 cyber threats facing the financial services industry

https://www.imperva.com/blog/2016/07/top-4-cyber-threats-facing-the-financial-services-industry/

Verizon (2017): Data Breach Investigations Report 10th Edition

http://www.verizonenterprise.com/verizon-insights-lab/data-breach-digest/2017/

SEI (2017): Six Things You Need to Know About Data Governance

https://insights.sei.cmu.edu/sei_blog/2017/06/six-things-you-need-to-know-about-data-governance.html

EBA (2016): Innovative uses of consumer data by financial institutions

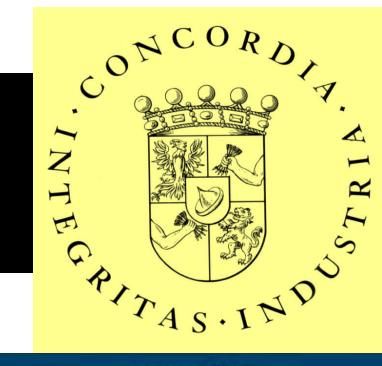
http://www.eba.europa.eu/-/eba-publishes-report-on-consumer-data-and-identifies-a-number-of-applicable-requirements-under-eu-law

The Data Governance Institute (2014): The DGI Data Governance Framework http://www.datagovernance.com/wp-content/uploads/2014/11/dgi framework.pdf

DAMA International (2009): Guide to the Data management Body of Knowledge

What happened in the Daily Gold Fixings Auctions 1919 to 1968 - The Missing Data

Dr. Fergal O'Connor Associate Professor of Finance The York Management School



The York Management School

UNIVERSITY of York

The London Gold Market

- Roots in trade between the East India Company and Moses Mocatta in late 17th Century
- Historically the Worlds Gold Market
- Still the Largest Market by Volume
- Significant recent changes

What was the Gold Fixing?

- Daily Meeting at NM Rothschild and Son
- 5 participants in the beginning
- Auction where the price and quantity was/is allowed to vary

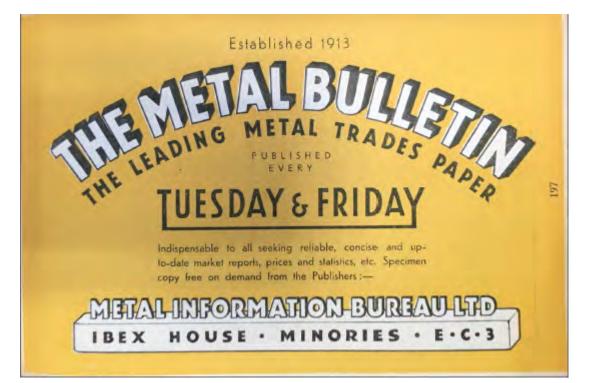


Academic Gold Research

- Lots of research on the Macroeconomic aspects of the gold standard
 - Relies on monthly and annual gold price data
 - Assumes gold price fixed by CB's
- Lots of research on the Financial Economics of precious metals markets post 1968 (O'Connor et al. 2015)
 - Twice daily data available from the London Market

Where was the data?

- Royal Mint Report 1919-1925
- Quins Metal Handbook and statistics 1919-1965



1925	Gold	1925	Gold	1925	Gold
		Mar. 5	86/9	May 9	84/111
Jan. 1	87/9	6	86/8	11	84/111 nom.
2 5	87/9	9	86/8	12	84/111
	87/4 nom.	10	86/9	13	84/111
6	87/7	10	86/8	14	84/111
7	87/5	11	86/7	15	84/111
8	87/4	13	86/4	16	84/11
9	87/2	16	86/4	18	84/11
12	86/11	10	86/7	19	84/111
13	87/1 nom.		86/8	20	84/111
14	87/8 nom.	18	86/8	21	84/111
15	87/1 nom.	19	86/8	22	84/11
16	87/2 nom.	20	86/8	23	84/111
19	87/1 nom.	23	86/7	25	84/111 nom
20	87/2	24	86/6	26	84/11
21	87/3	25	86/4	27	84/11
22	87/-	26	86/5	28	84/11
23	86/10	27	86/5	29	84/11
26	86/9	30	86/6	30	84/11
27	86/11	31	86/7		84/11
28	86/11	Apl. 1	86/6	June 2	84/11
29	87/-	2	86/6	34	84/111 nom
30	87/1	3	86/6	5	84/11
Feb. 2	86/11	6	86/5	6	84/11
3	87/-	7	86/5	8	84/11
4	87/1	8	86/5	9	84/11
5	87/1 nom.	9	no price.	10	84/11
6	87/2	14	86/5	11	84/11
9	87/4	15	86/7	12	84/11
10	87/2	16 17	86/7	13	84/11
11	86/10	20	86/7 86/6 nom.	15	84/11
12 13	86/8	20	86/6	16	84/11
16	86/8 86/10	22	86/4	17	84/11
17	86/10	23	86/5	18	84/11
18	86/11	24	86/3	19	84/11
19	87/1	27	85/9	20	84/11
20	86/11	28	86/-	22	84/11
23	87/1	29	84/111	23	84/11
24	86/11	30	84/11	24	84/11
25	86/11 87/-	May 1	84/11	25	84/11 84/11
26	87/1	4	84/111	26	84/11
27	87/3	5	84/111	27	84/111
Mar.	2 86/10	67	84/111	29	84/11
3	86/10	7	84/11	30	84/11
4	86/9	8	84/111	1	

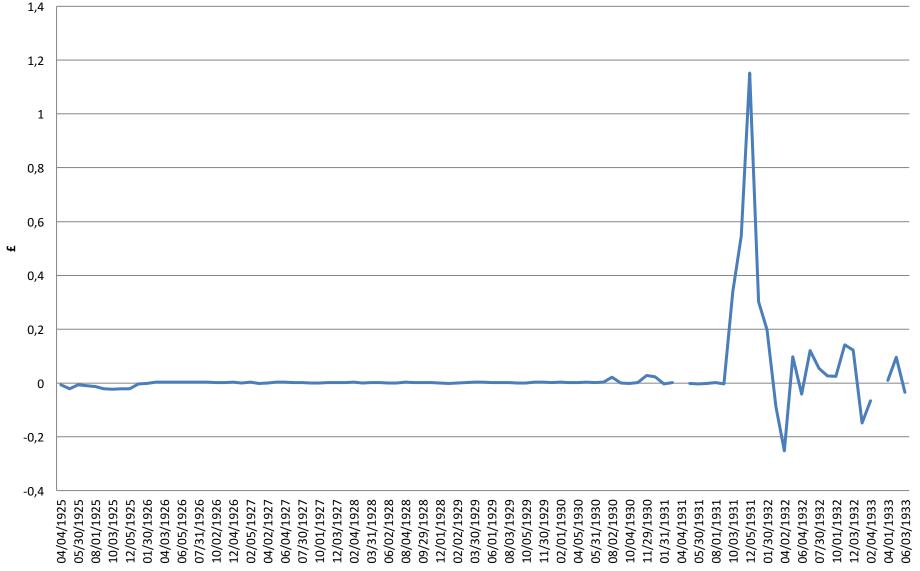


Other Sources of Gold Price Data

- **Annual** gold prices from 1257 freely available from MeasuringWorth.com
- Monthly gold prices are available from 1723 to 1968 and daily thereafter from the Global Financial Database
- **Daily** gold prices are freely available from the London Bullion Market Association website from 1968

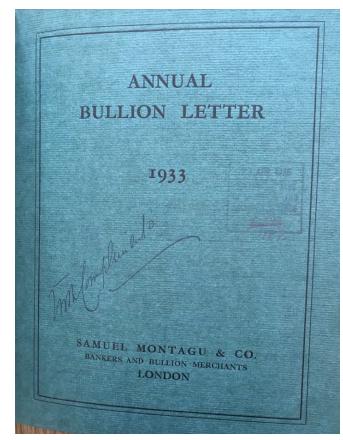


Errors in Current Data Global Financial Database Vs. Quin's



Other aspects to the project

- Qualitative History of the London Gold Market
 - Based on sources such as Samuel Montagu & Co.'s Annual Bullion Letter
- Daily Silver Fixings Data 1913-1970
- Daily LME data for Copper, Lead and Zinc 1913-1970



Thank you for Listening

Questions and/or Suggestions Welcome

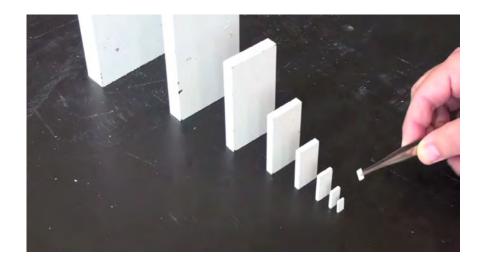
Management School UNIVERSITY of York

A Tale of Rain and Bank Runs From Small To Big Data and Back

ANTON COMANESCU

National Bank of Romania

Zagreb, Croatia 10 November 2017



"Knowledge is nothing else than perception."

PLATO

"Perceptions can make or brake policies, even the best ones"

Jacques Santer, Report to the EU Parliament

Structure:

- Tales about the Devil in the details
- From demand and supply of information to Perceptions

The Iranian revolution of 1979 and the diplomats

with dirty shoes



- •In the aftermath of the Iranian revolution the UK Foreign Office commissioned a
- secret inquiry into the failure of British diplomats to predict the events
- •The inquiry found out that one problem was that the embassy in Tehran had little contact with the world outside the Shah's entourage
- •Subsequent generations of diplomats learned the importance of "ground truth"
- •One ambassador to Iran used then to check if staff's shoes were dirty

CIA, Kremlinology and the failure to predict the fall of USSR

•Churchill once characterized Russia as a "riddle wrapped in a mystery inside an enigma"

•During the Cold War, the West became obsessed with gathering date about the Soviet Union

•CIA had a Department of Kremlinology; The Soviet Studies, based on data about USSR, tended to exaggerate its strength and underestimate its flaws
•A CIA report and a National Security Directive of September 1989 are two of many documents famously failing to predict the withdrawal of USSR from its

engagement in Eastern Europe and ultimately the fall of communism

Document No. 1: CIA Intelligence Assessment, "Gorbachev's Domestic Gambles and Instability in the USSR" September 1989 Gorbachev's rule at the top. For the time being, his power looks secure. If, somehow, a successful challenge were mounted against him over the next year or so, the most likely outcome would be a traditionalist restoration that would attempt to "draw the line" in various areas--

> The character of the changes taking place in the Soviet Union leads to the possibility that a new era may be now upon us. We may be able to move beyond containment to a U.S. policy that actively promotes the integration of the Soviet Union into the existing international system. The



https://nsarchive.gwu.edu/

Make sense of big data but also dig for small data and

"kick the tires" of the economy

•Alan Greenspan used his own private tennis club to check the mood of politicians and business leaders; he then used this first-hand information for his assessment of the economic outlook

•The members of the **ECB** Executive Board learned from the morning newspapers about the peak in the US residential mortgages delinquency rate in **August 2007**

•With unemployment at historical lows and reduced income inequality, 52 percent of UK

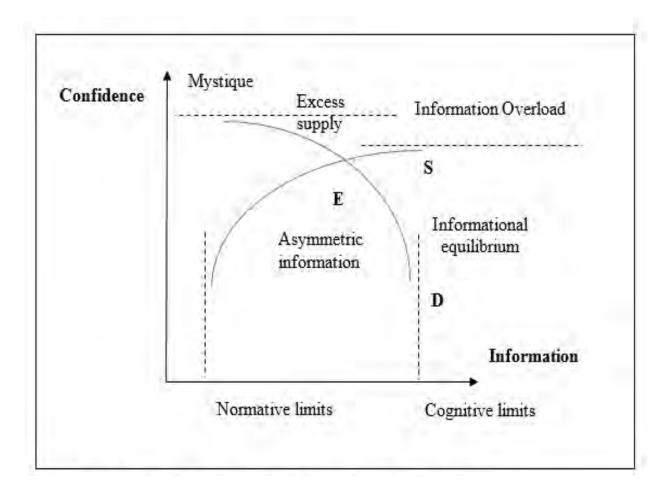
voters have chosen, against all odds, to leave the EU

•BBRD Resolution algorithm to assess bank risks

- •Banking Union: if we got it wrong, you all did
- •The Juncker Plan: failing to pay attention to local culture



A model of demand and supply of information



There is a limit of how much you can learn about the economy from data

"We have never successfully modeled the transition from euphoria to fear." ALAN GREENSPAN

From data to Greenspan's Weltanschauung

"Well, remember what an ideology is. It's a conceptual framework with the way people deal with reality. Everyone has one. You have to. To exist you need an ideology. The question is whether it is accurate or not. And what I'm saying to you is yes, I have found a flaw. I don't know how significant or permanent it is. But I have been very distressed by the fact."

The congressman questioning him asked: "In other words, you found that your view of the world, your ideology, was not right. It was not working?"

Greenspan replied: "Absolutely. Precisely. You know that's precisely the reason I was shocked. Because I have been going for forty years or more with very considerable evidence that it was working exceptionally well."

October 23, 2008, Alan Greenspan's testimony to the Congress about his failure to predict Lehman

Thank you! and here is how to topple a skyscraper!



Calling all archivists – the five grand challenges of the digital environment.

Michael Moss (Northumbria University)

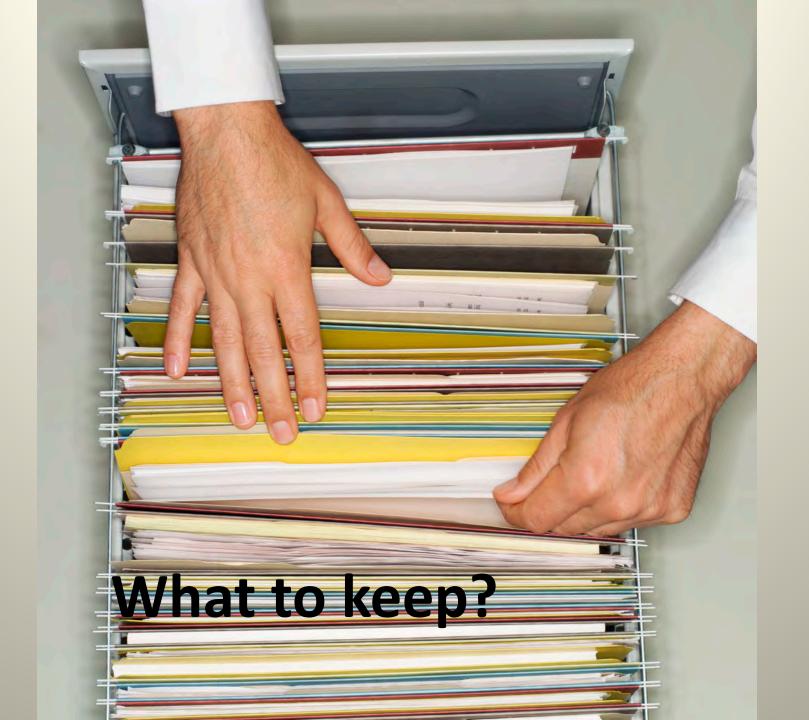


velocity, volume, veracity and variety

Corpus of 1.7 million messages

The five grand challenges:
appraisal, what to keep to meet demand and expectations on a new scale.
how to identify content that cannot safely be released - termed sensitivity review,

long term preservation of digital objects, very different from paper
how users are going to explore and analyse content whose bulk precludes conventional cataloguing,
finally who is to pay for all the new services?



No agreement

- No discernible order.
- Penalties for destruction.
- Capstone?
- Digital forensics approach is to capture all email content for analysis with no filtering, essential for public enquiries.
- Extinguishing duplicates and trivia there is a great deal left.
- Need to experiment before it is too late.

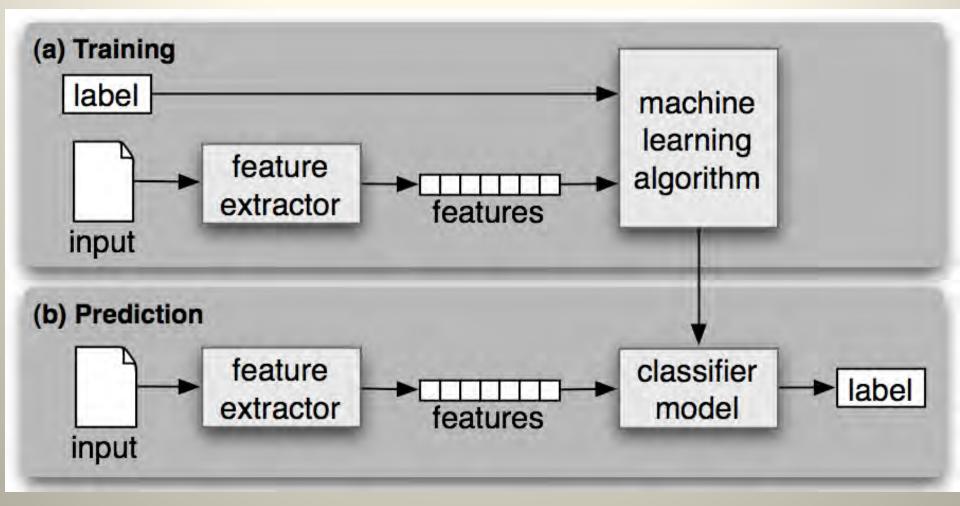


The need to keep PIPs for a long time.

Sensitivity review. **Data protection. Appendices of** FOIAs. Little case law. Time consuming. **Proactive/reactive.** A great muddle. Be cautious.









SHARE SHARE

Search

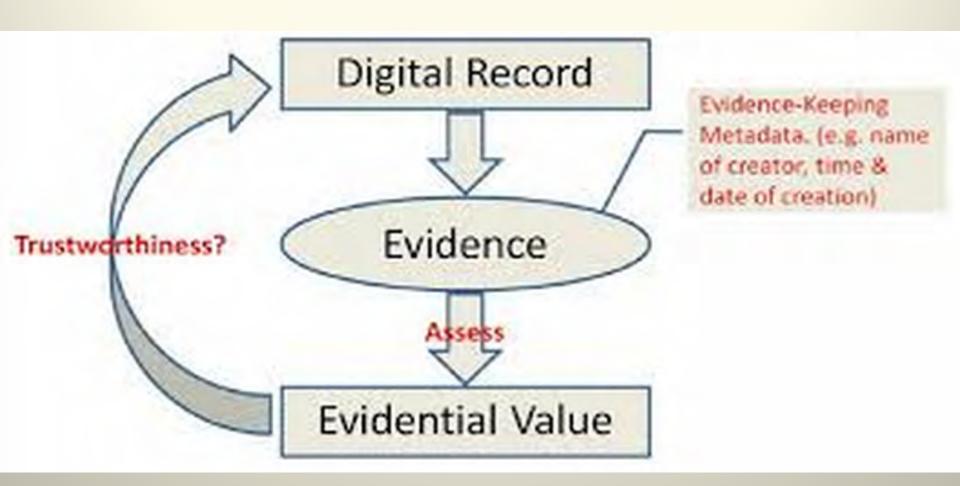
Home	Advice	Advocacy	Publications	Training	Events	Members	Newsroom	About	
You are here	e:Home								

Our digital memory accessible tomorrow

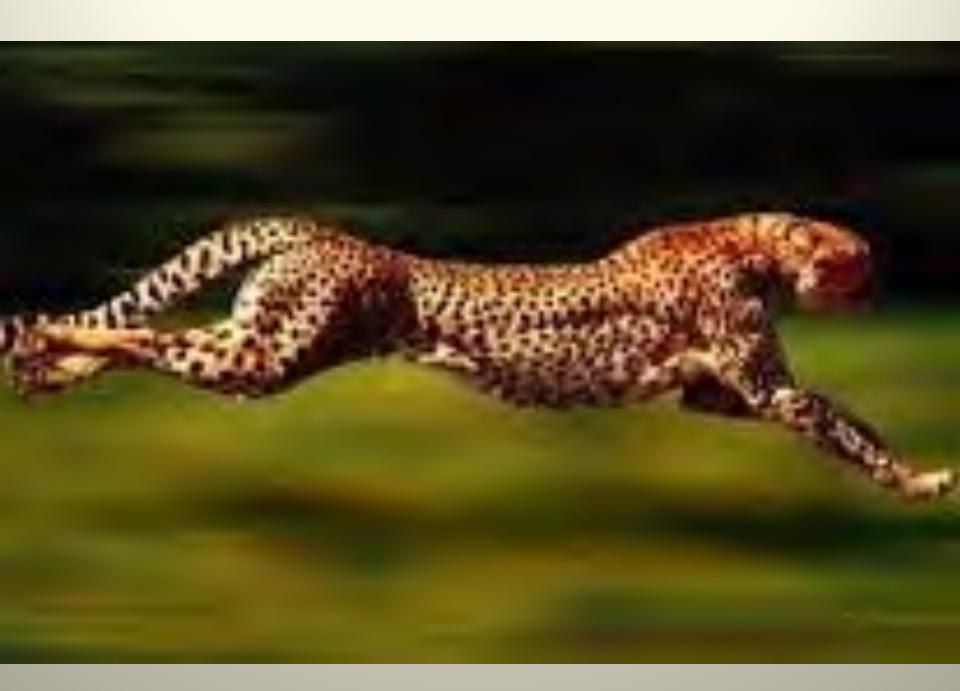
The Digital Preservation Coalition (DPC) is an advocate and catalyst for digital preservation, enabling our members to deliver resilient long-term access to content and services, and helping them derive enduring value from digital collections. We raise awareness of the importance of the preservation of digital material and the attendant strategic, cultural and technological issues. We are a not-for-profit membership organisation and we support our members through knowledge exchange, capacity building, assurance, advocacy and partnership. Our vision is to make our digital memory accessible tomorrow.

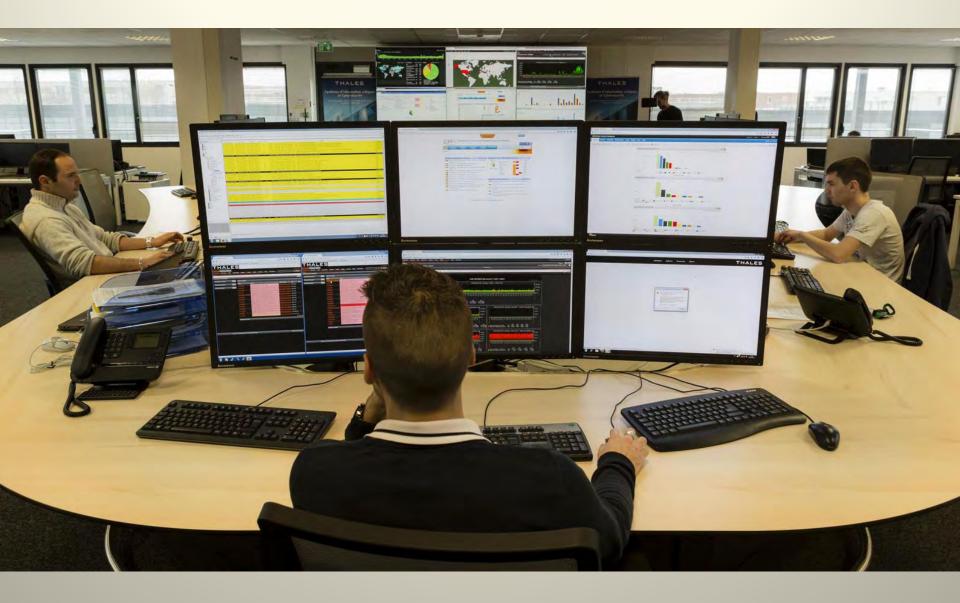


Tim Gollins, 'Parsimonious preservation: preventing pointless processes! (The small simple steps that take digital preservation a long way forward)', London, TNA, 2009)



We have three pillars, volume, variety and veracity.





Throughout history the written word has taken on different forms. From clay and wax tablets to papyrus scrolls . . . Incised monumental lettering . . . Medieval manuscripts and eventually the printed book. The metamorphosis of of the printed book is taking place right now. And just like before, the written word is evolving into a new form.

Els van den Steen



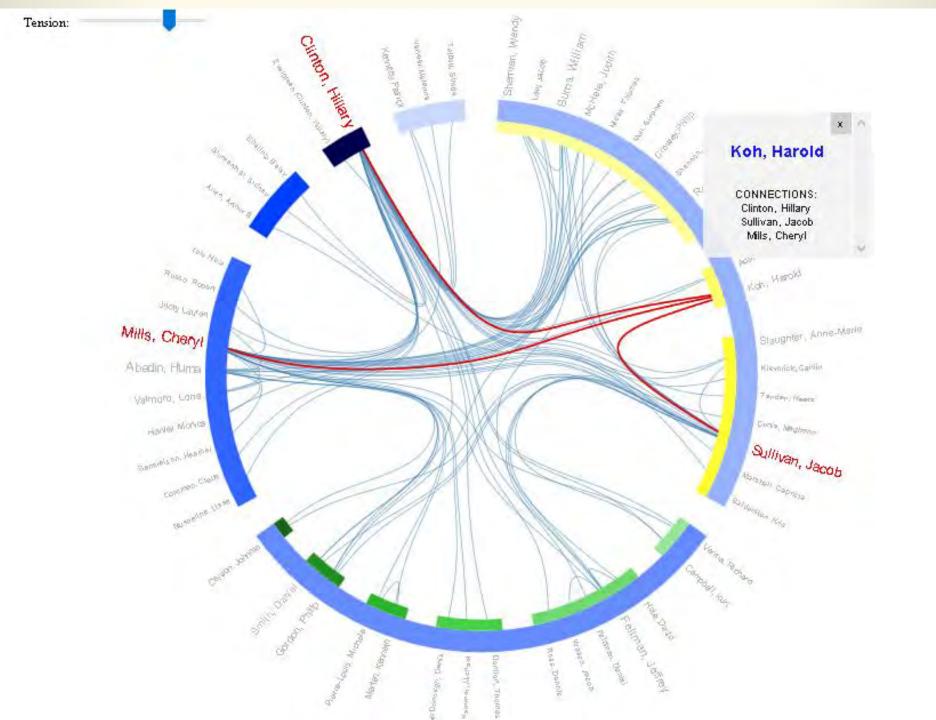
Exploring Big Historical Data: The Historian's Macroscope

We are not implying that this is the way historians will 'do' history when it comes to big data; rather, it is but one piece of the toolkit, one more way of dealing with 'big' amounts of data that historians are now having to grapple with. What is more, a 'macroscope', a tool for looking at the very big, deliberately suggests a scientist's workbench, where the investigator moves between different tools for exploring different scales, keeping notes in a lab notebook. Similarly, an approach to big data for the historian (we argue) needs to be a public approach, with the historian keeping an open notebook so that others may explore the same paths through the information, while possibly reaching very different conclusions. This is a generative approach: big data for the humanities is not only about justifying a story about the past, but generating new stories, new perspectives, given our new vantage points and tools



History as Data Science

We turn documents into data and develop tools to explore history.

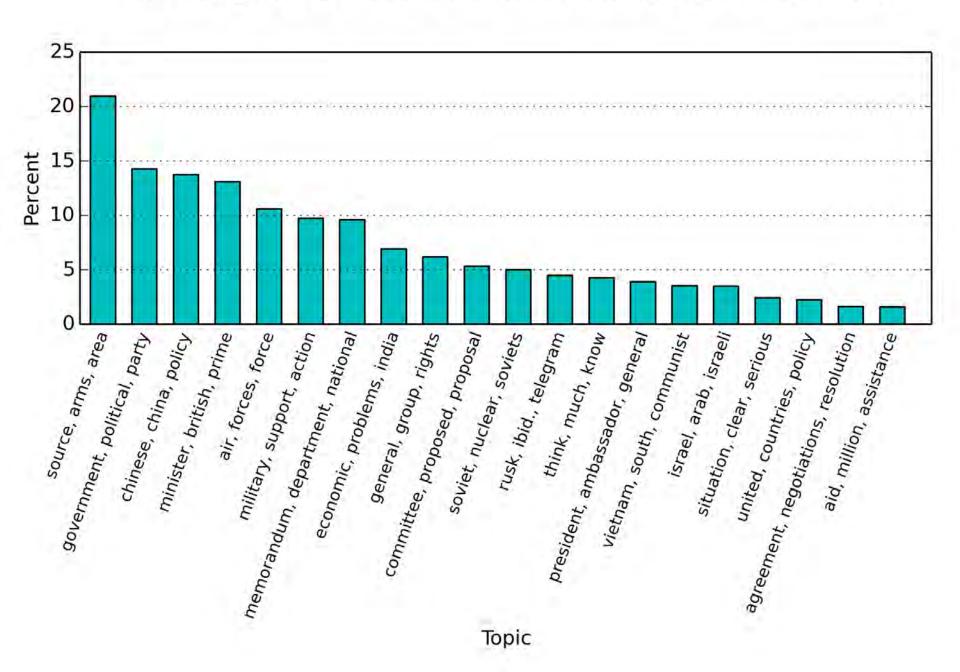


Countries Mentioned in Documents

What countries are most often discussed in these documents? To select them for search you can zoom into the map or select from the list below.



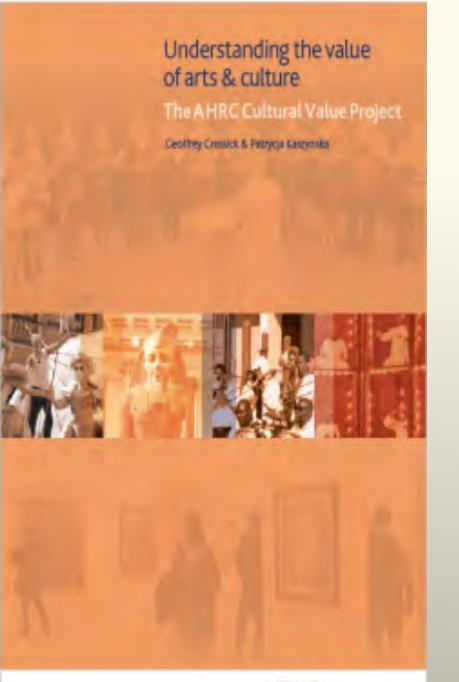
Percentage of documents with redactions by topic (1961-1968)





A Good Question

- Evidential value the state or organisation.
- Cultural value tricky.
- Tools project based, but need to become services.
- Commercial providers.
- Will archives or customers provide tools?
- Raises questions of security and sensitivty.



I hope you have been listening – this is not going away.

