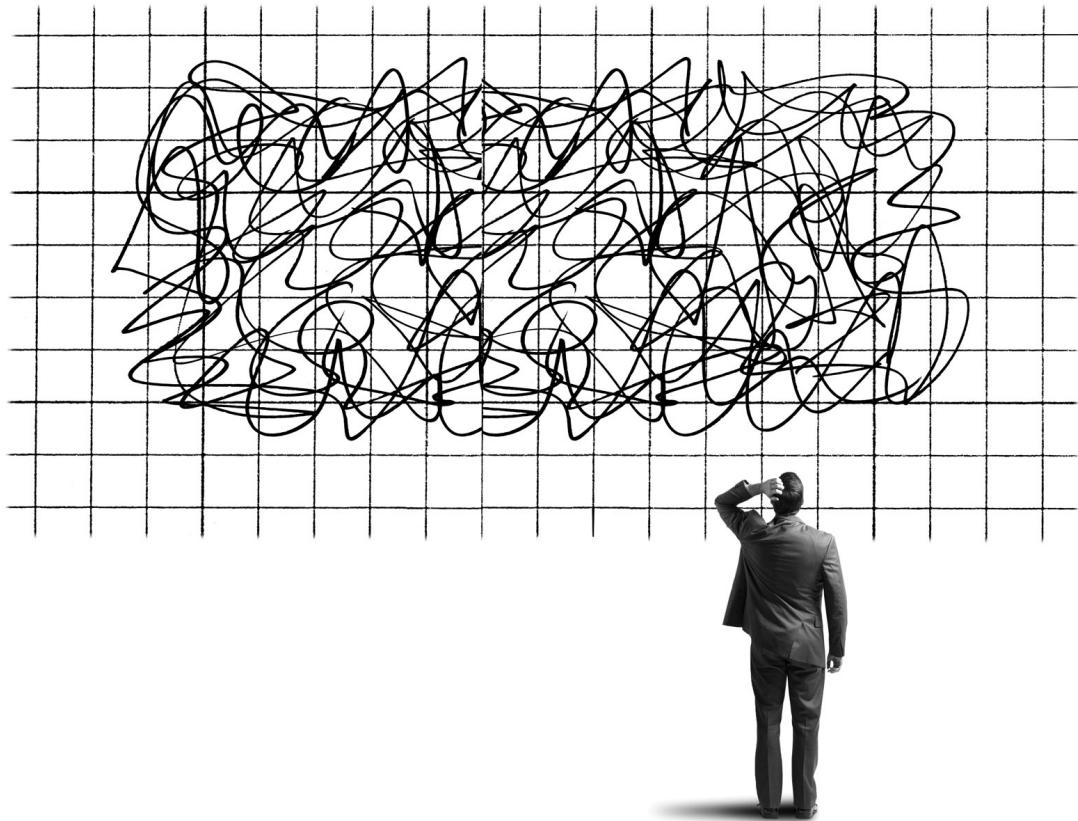




Indicadores alternativos en la coyuntura actual

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Universidad del Rosario

Introducción



"If I had to identify a theme at the outset of the new decade it would be increasing uncertainty."

Kristalina Georgieva, Managing Director
of the IMF, Peterson Institute for
International Economics, January 17, 2020

Introducción

How Big Investors Cash In on 'Alternative Data': QuickTake - Bloomberg

<https://www.bloomberg.com/news/articles/2019-11-09/how-big-investors-cash-in-on-alternative-data-quicktake>

Hedge Fund's Big Short Shows Why Alt-Data Demand Is Surging

<https://www.bloomberg.com/news/articles/2020-04-02/hedge-fund-s-big-short-shows-why-demand-for-alt-data-is-surging>

Introducción

- Revisaremos conjuntamente algunas fuentes de datos y técnicas alternativas de análisis de datos en la coyuntura actual. Daremos algunas referencias e introducción a los temas con el fin de generar ideas de investigación.
- Emplearemos herramientas disponibles en la Universidad del Rosario y que se pueden emplear en sus casas (Matlab - Eviews). Si no se cuenta con estas herramientas se puede emplear programas libres como R o Python.

Introducción

- *Indicadores de incertidumbre*

- Aplicación: Medidas de política económica adoptadas
- Técnica: Análisis de texto

- *Indicadores de búsquedas*

- Aplicación: Un indicador naïve de comercio
- Técnica: Componentes principales

Indicadores de incertidumbre

- La incertidumbre reduce la disposición de las empresas a contratar e invertir y de los consumidores a gastar. Sin embargo, es un concepto nebuloso.
- Es un concepto amplio ya que se relaciona con fenómenos macro como el crecimiento del PIB y fenómenos micro como la tasa de inversión de las empresas.
- Se han empleado varias formas de calcular la incertidumbre.

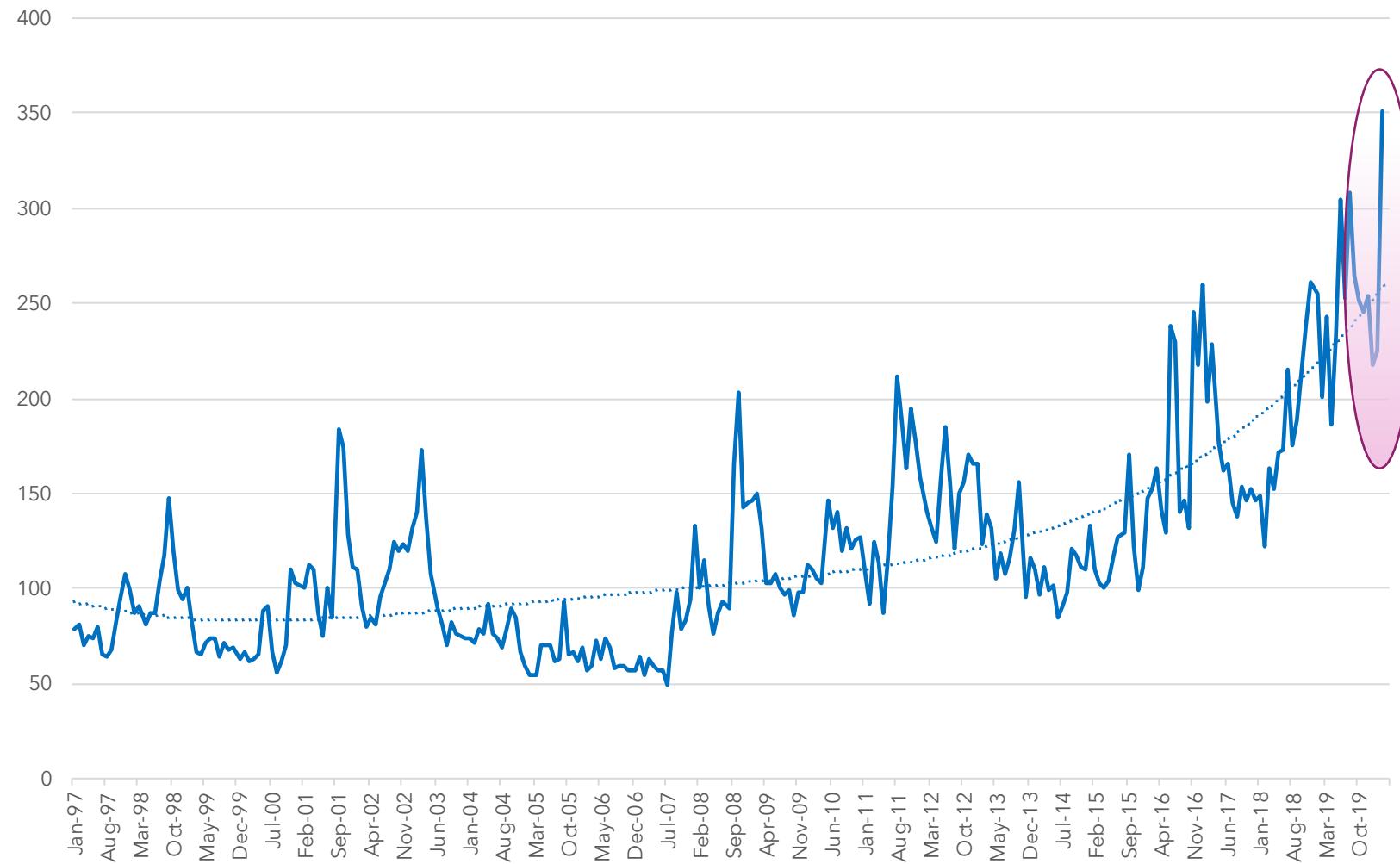
Indicadores de incertidumbre

- Recientemente se han popularizado los indicadores de incertidumbre basados en análisis de texto y su impacto en variables macro o financieras:
- "Policy News and Stock Market Volatility" by Scott R. Baker, Nick Bloom, Steven J. Davis and Kyle Kost (2019)

Indicadores de incertidumbre

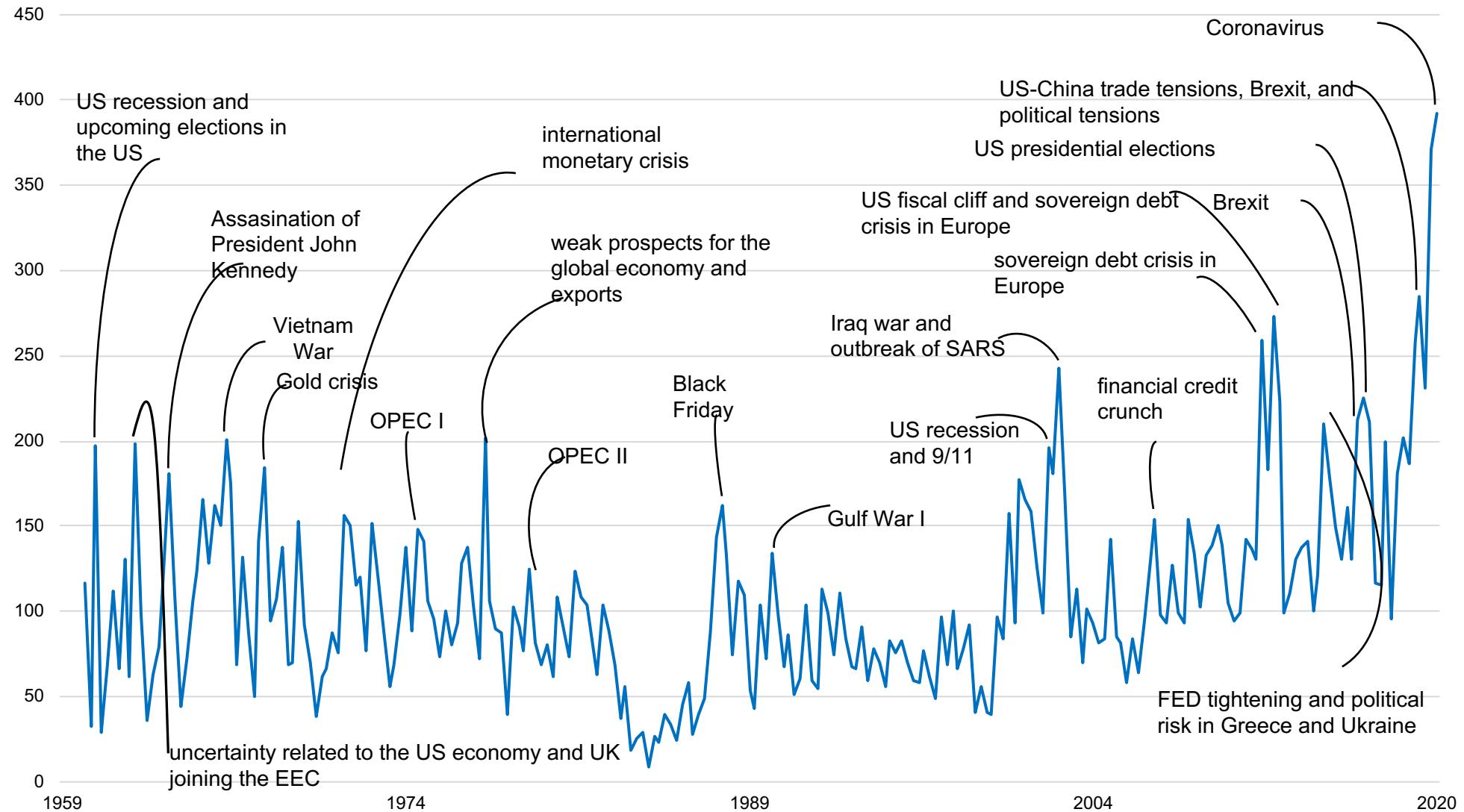
- Un indicador ampliamente usado es el de Baker, Bloom & Davies
- Baker, S. R., N. Bloom, and S. J. Davis. 2016. "Measuring Economic Policy Uncertainty." *Quarterly Journal of Economics* 131 (4): 1593-1636.
- *"To measure policy-related economic uncertainty, we construct an index from three types of underlying components. One component quantifies newspaper coverage of policy-related economic uncertainty. A second component reflects the number of federal tax code provisions set to expire in future years. The third component uses disagreement among economic forecasters as a proxy for uncertainty."*
- Los datos pueden encontrarse en:
<https://www.policyuncertainty.com/index.html>

GEPU_current



Indicadores de incertidumbre

- Otro indicador popular el WUI del FMI.
- *"The WUI is computed by counting the percent of word "uncertain" (or its variant) in the Economist Intelligence Unit country reports. The WUI is then rescaled by multiplying by 1,000,000. A higher number means higher uncertainty and vice versa. For example, an index of 200 corresponds to the word uncertainty accounting for 0.02 percent of all words, which—given the EIU reports are on average about 10,000 words long—means about 2 words per report."*
- Los datos pueden encontrarse en:
<https://worlduncertaintyindex.com>

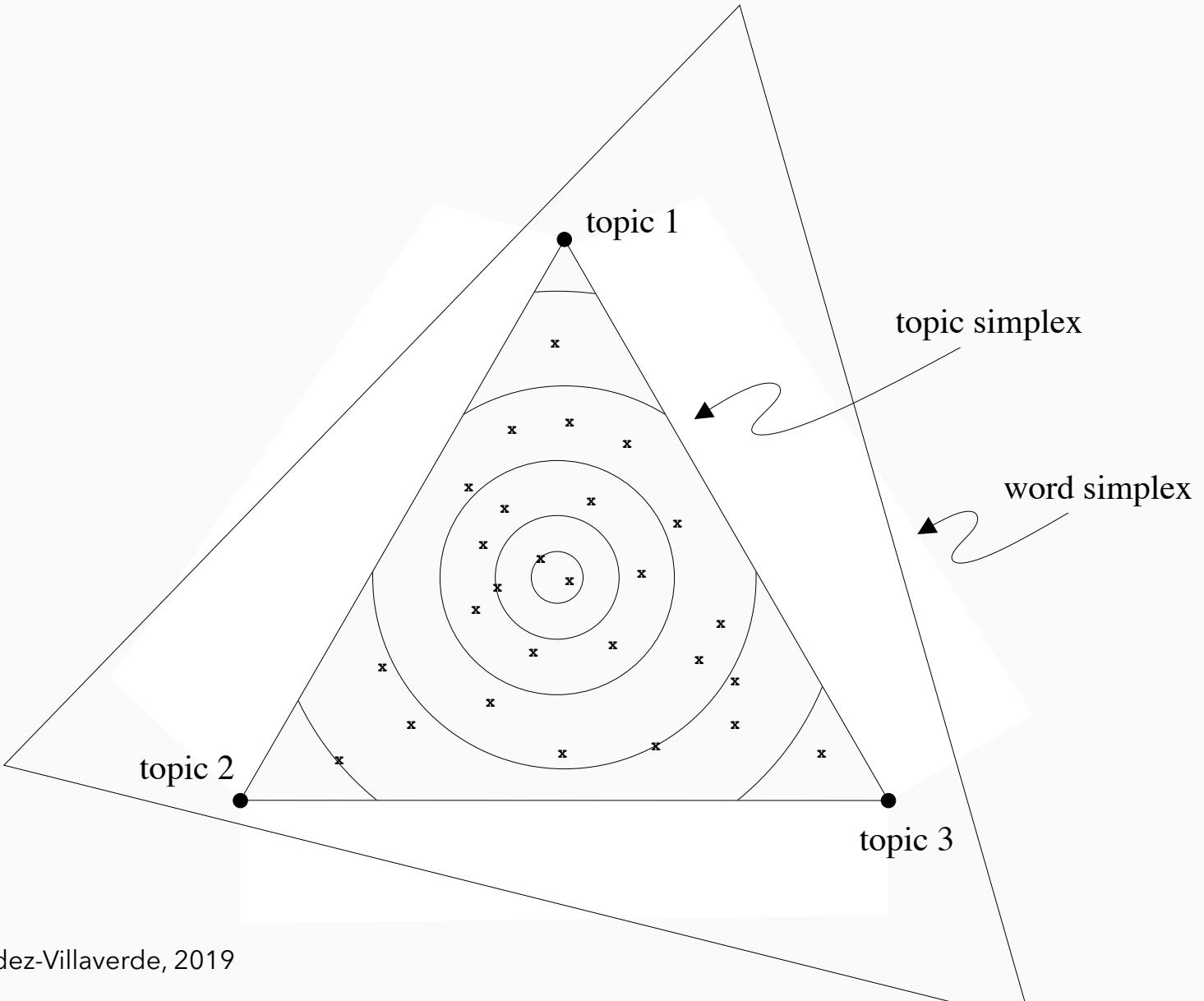


Indicadores de incertidumbre

- En ambas referencias dadas anteriormente se encuentran análisis interesantes sobre el impacto del Covid-19.
- Los indicadores son “relativamente” sencillos y se basan en conteos de palabras.
- ¡Pero podemos hacer cosas mas interesantes aún!
- Por ejemplo podemos analizar que tipo de políticas económicas han empleado las autoridades económicas en los países emergentes. Seguiremos con ese ejemplo.

Indicadores de incertidumbre

- En el FMI se encuentran las medidas adoptadas en el siguiente link:
<https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19>
- Matlab se puede obtener en mathworks.com y obtener la licencia con el email de la universidad.
- Los tutoriales de text analytics se encuentran en
https://www.mathworks.com/products/text-analytics.html?s_tid=srchttitle
- Los archivos replicables de ejemplo de Matlab están en la carpeta Policy_response



Fuente: Fernandez-Villaverde, 2019

Monetary policy in EM: two topics

Topic 1

government purchases auctions provide companies facilities support intervention stock operations loans introduced main bi foreign market auction fx swap reserve credit well up 100bps 50bps lowered 20 march spot funds qcb interest 9 repo y 19 key 975 overnight usd20 program daily liquidity increase worth deposit lending 25 rate meeting swaps banks reduced bank announced terms granted exchange loan extended covid19 increased lower additional repurchase

Topic 2

applicable deposit lowered interest facility additional line operations covid19 stock banks up reserve loan 75bps week exchange lower rates 20 liquidity 100 bps 50 100 key 1y auction repo billion terms support bi bonds 975 swap fx 9 qcb reduced usd20 mpc cut 25 cds funds worth purchases loans intervention companies bank 100bps main swaps extended government program applicable terms provided increase repurchase credit market well facilities introduced meeting overnight

March sarb foreign lending policy

Fiscal policy in EM: two topics

Topic 1

A word cloud centered around the word "government". Other prominent words include "stimulus", "announced", "billion", "package", "market", "private", "spending", "property", "coronavirus", "economic", "including", "public", "support", "vat", "tax", "gdp", "income", "sector", "special", "billion", "measures", "18", "announced", "total", "local", "bank", "up", "budget", "scheme", "central", "march", "market", "private", "funds", "spending", "property". Smaller words include "covid19", "reduced", "year", "fund", "period", "bond", "reduced", "credit", "auctions", "order", "effects", "affected", "businesses", "supplies", "banks", "social", "rate", "financing", "relief", "medical", "assistance", "ensure", "bank", "sectors", "up", "services", "introduced", "months", "assistance", "fiscal", "income", "companies", "interest", "bond", "auctions", "aid", "bonds", "spending", "property".

Topic 2

A word cloud centered around the word "businesses". Other prominent words include "services", "affected", "introduced", "sectors", "central", "reduced", "finance", "loan", "interest", "smes", "taxes", "banks", "credit", "months", "payments", "covid19", "six", "social", "loans", "relief", "additional", "funding", "program", "supplies", "assistance", "financing", "companies", "pandemic". Smaller words include "private", "tax", "match", "peer", "color", "increase", "budget", "market", "special", "measures", "package", "sector", "offices", "put", "up", "rate", "fund", "including", "reduce", "use", "covid19", "commercial", "public", "local", "announced", "bond", "relief", "medical", "income", "government", "economy", "stimulus", "fiscal", "income", "property", "relief", "months", "assistance", "fiscal", "income", "companies", "interest", "bond", "auctions", "aid", "bonds", "spending", "property".

Macro prudential policy in EM: two topics

Topic 1

companies
million program
stimulus assistance
businesses
ensure affected rate pandemic
year government bank effects
put fiscal tax 9 loans
increase medical social interest funds up finance
local loan banks private
total bond fund
public announced introduced six 18 coronavirus
announced
central taxes vat property including credit economic package order
special smes income reduced period
auctions budget covid19
march market sector
additional spending measures financing

Topic 2

pandemic
reduced supplies scheme
rate sectors
funds loan
fund smes increase period
finance tax social
introduced banks credit
up months
payments
relief six taxes vat
including income
funding interest
medical services
covid19 property affected
coronavirus

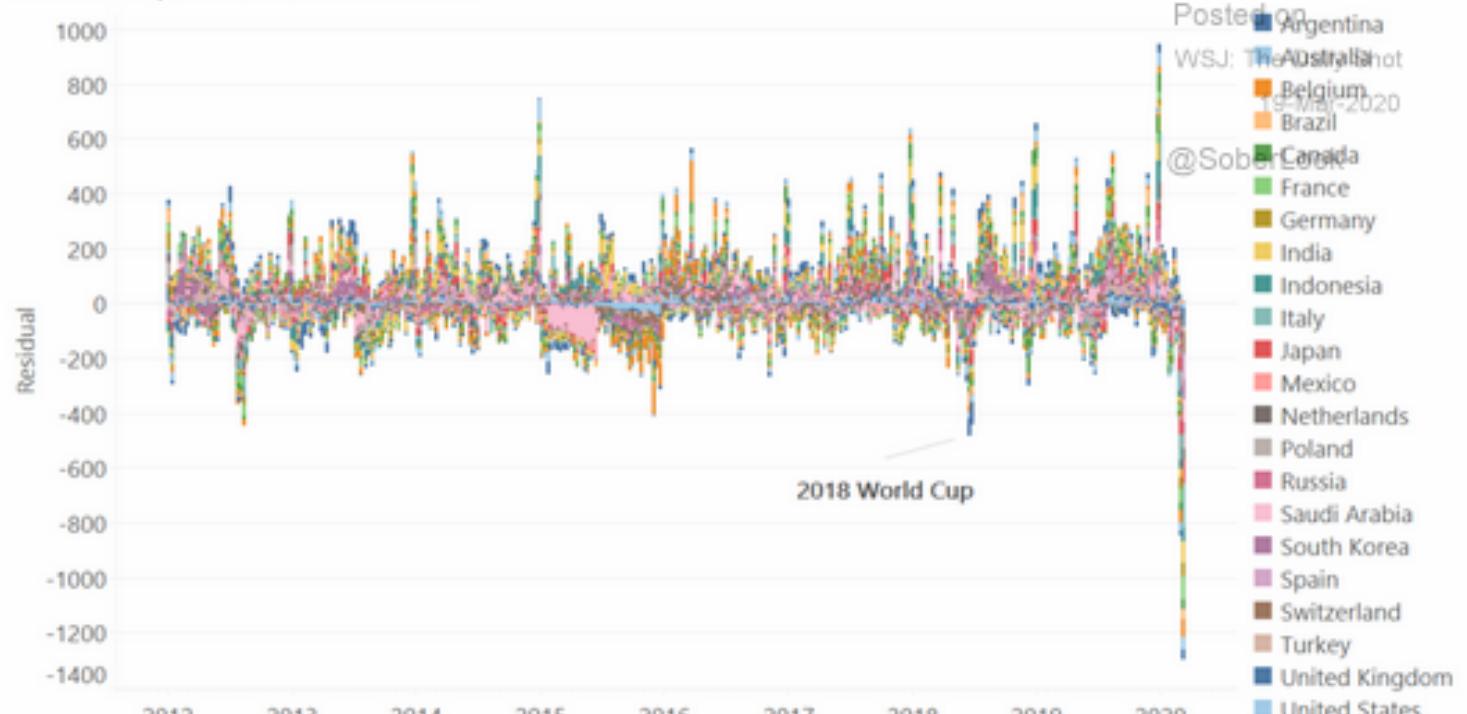
Indicadores de busquedas

- La necesidad de realizar “nowcasting” y tener indicadores de actividad en tiempo real (información de mercados financieros, transacciones bancarias, imágenes satelitales, búsquedas en Google, actividad en redes sociales).
- Algunos ejemplos...

Largest Synchronized Retreat in Consumer Searches in Eight Years

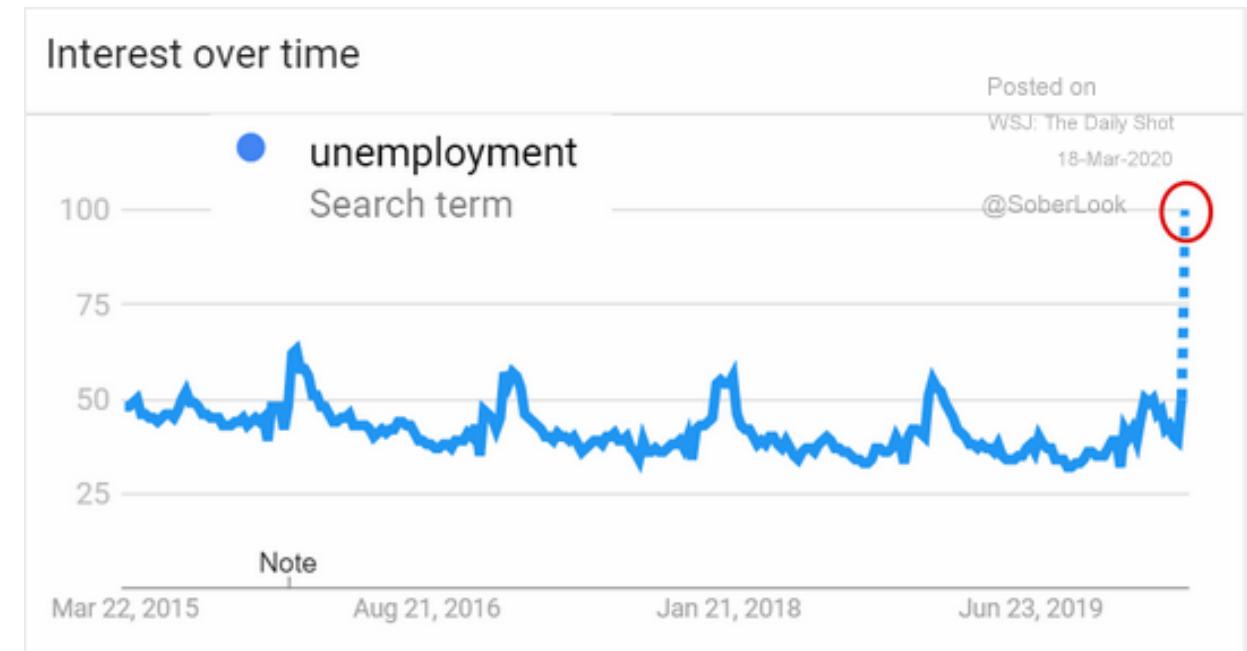
Residual Component of Consumer Searches

ARBOR DATA SCIENCE



Data Source: Bloomberg, LP ©2020 Arbor Data Science All Rights Reserved

datascience.arborresearch.com



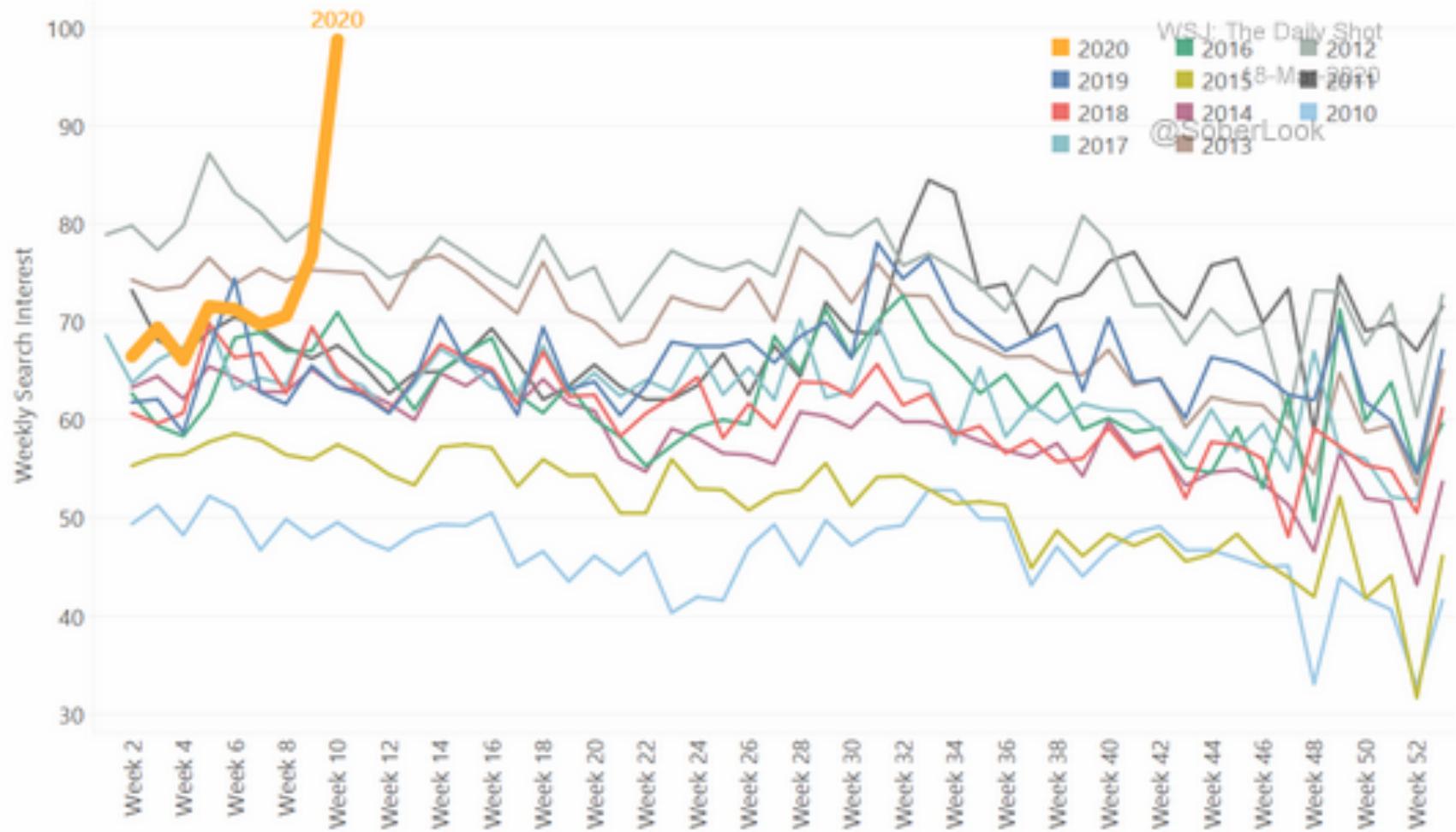
Stunning Rise in Home Financing Search Interest

Weekly Search Interest in Google's Home Financing Category

ARBOR DATA SCIENCE

Posted on

WSJ: The Daily Shot
@SoberLook
2016 2012
2015 2011
2014 2010
2013 2009



Data Source: Bloomberg LP, Mortgage Bankers Association

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datascience.arborresearch.com

Singapore, South Korea and Taiwan Get Back to Work

Sum of Residual Components Across 40+ Search Trends

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WSJ: The Daily Shot

23-Mar-2020

@SoberLook



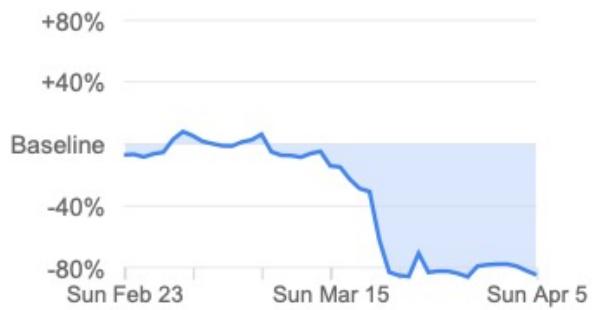
Data Source: Google Trends ©2020 Arbor Data Science All Rights Reserved

datascience.arborresearch.com

Retail & recreation

-85%

compared to baseline

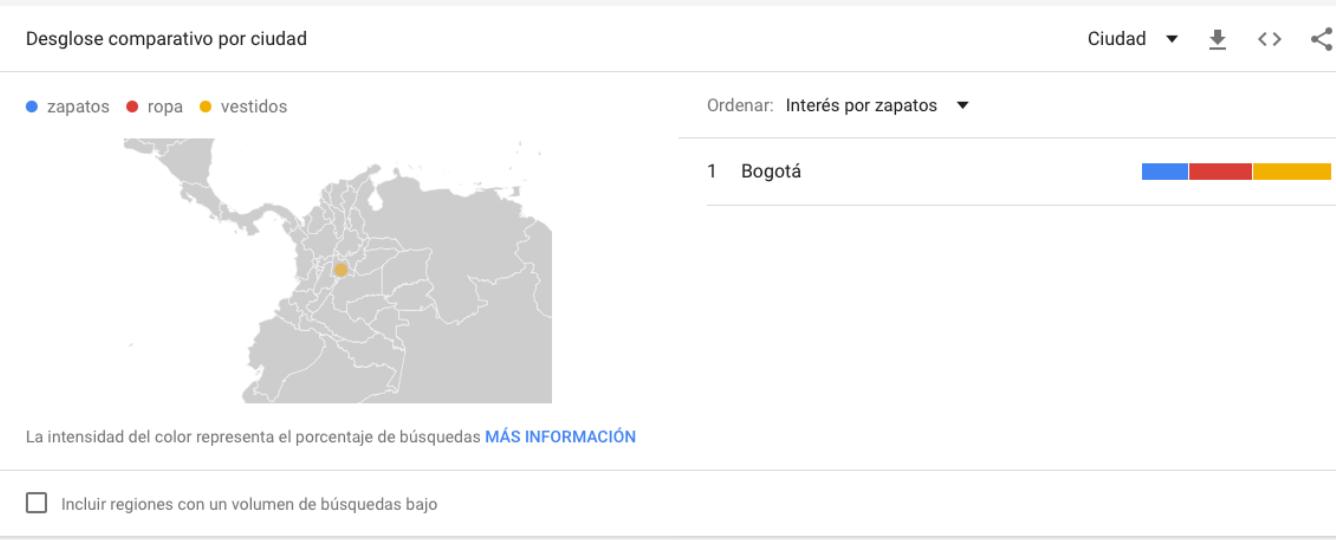
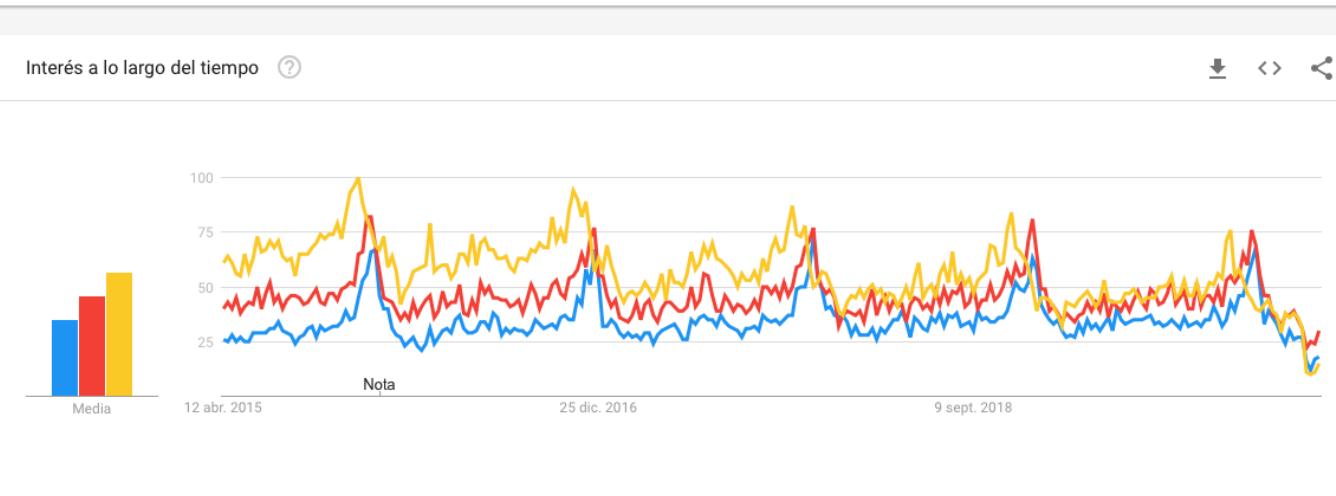


Mobility trends for places like restaurants, cafes, shopping centers, theme parks, museums, libraries, and movie theaters.

<https://www.google.com/covid19/mobility/>



Bogotá ▾ Últimos 5 años ▾ Compras ▾ Búsqueda web ▾



Vamos a utilizar estos indicadores para construir un índice naïve de actividad de retail empleando componentes principales...

La versión de estudiantes la pueden encontrar en
<http://register1.eviews.com/Lite/>

La data pueden buscarla en
<https://trends.google.com/trends/>