

Business Closures and (Re)Openings in Real Time Using Google Places

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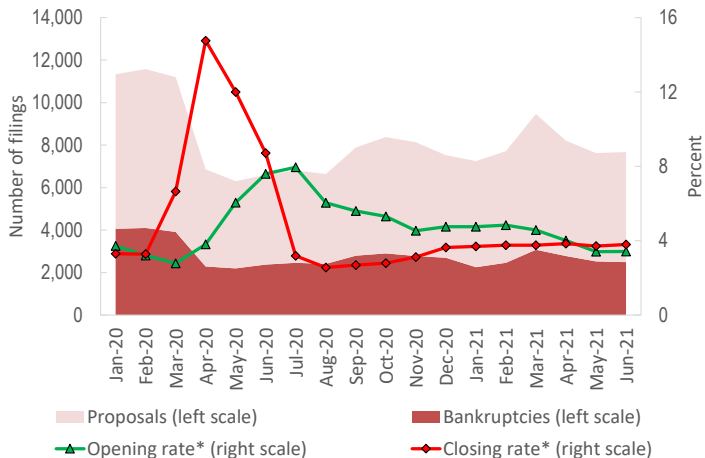
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Does not represent the view of the Bank of Canada nor Bank of England

AEA, January 2023

How to assess business entry/exits?



* From Statistics Canada, for retail/food/accomodation sectors

Last obs: June 2021
Data from Canada

- But traditional estimates often derived from tax records with lag
 - ▶ Fast-paced crisis: non-traditional data?

A new method using data behind Google maps

Concept using data from Google Places



Data from:

- Owner: account
- Customer: reviews
- Google: google street
- Third party dataset

Figure: Around ASSA conference, New Orleans

Methodology

Search businesses with API given lat/long and a radius

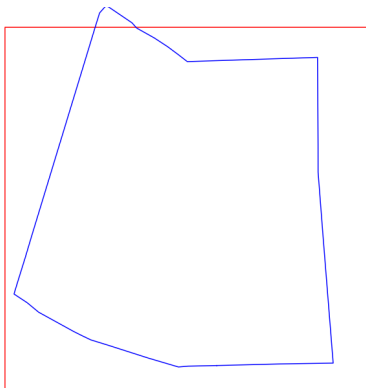


Figure: Bisection algorithm, search for "restaurants" around conference hotel

1 Start with lat/long of middle

2 Pick radius wide enough

3



4

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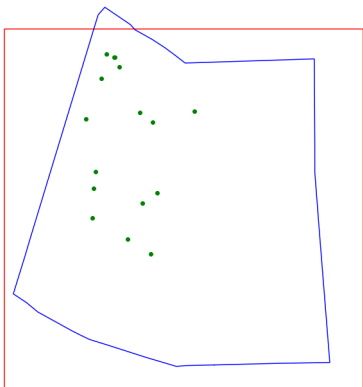


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▶
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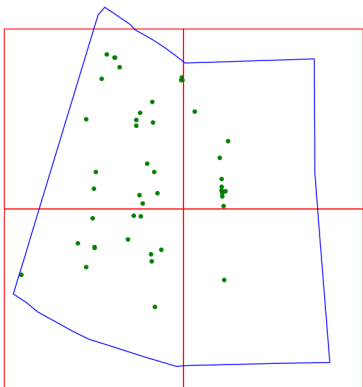


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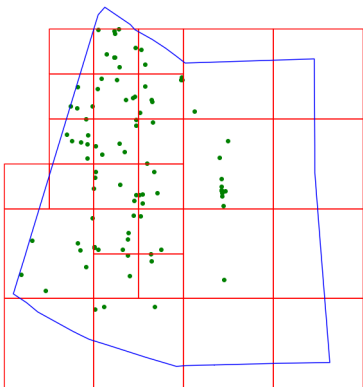


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Computing business openings and closures

Real-time data only (no historical data) but unique identifier `place_id`

- **Closures**=exit+temporary closures

- ▶ Exit: repeat scrape and look for `place_id` that no longer exist in data
- ▶ Temporary closures: when status is "temporarily closed"

- **Openings**=entry+reopening

- ▶ Reopening: when status moves back to "open"
- ▶ Entry: Repeat scrape and look for new `place_id`
 - ★ If true entry, business should have very few reviews yet ?

	open in t with:		temporarily closed in t	non-existent in t
	≤ 10 reviews	> 10 reviews		
open in t-1	Continuing		Temporary closure	Exit
temporarily closed in t-1	Reopening			
non-existent in t-1	Entry			

External validation

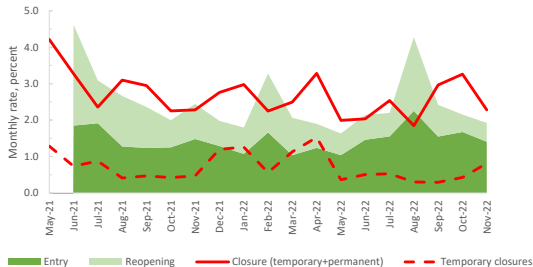
- **Entries:** validate openings in Ottawa/Gatineau over May-September 2021 by phone call/in person (200 businesses)
 - ▶ 71% of new entries in the food sector validated
 - ★ Only 62% if count as new entries those with >10 reviews
 - ▶ 44% of new entries in the retail sector validated
- **Exits:** for the City of Westminster (UK) over September/November 2022 against compulsory registry of UK businesses

But some aspects difficult to validate

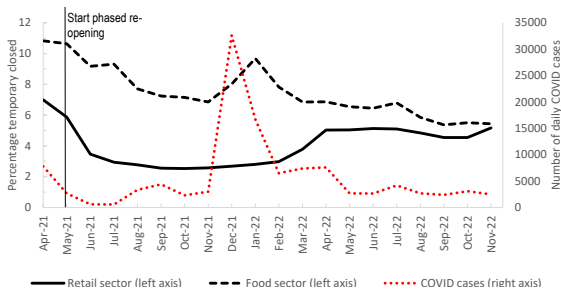
- For entries: online retailer/ COVID limited access
- For exits: unclear how to assess timing of exit

Main takeaways of using Google Places for business dynamics

Captures well business dynamics Toronto, Vancouver, Montreal, Ottawa: 26000/month



(a) Flow of openings and closures



(b) Stock of temporary closures

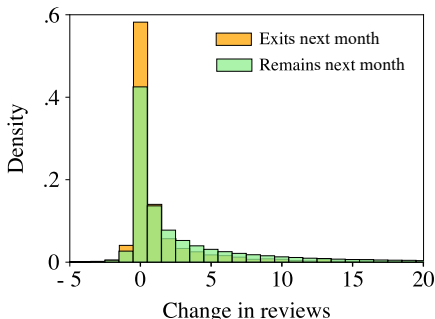
- Timely (no delay)
- Narrative of COVID
- Role of re-openings
- Captures establishments, incl. self-employed

Temporary closures during April 2021 lockdown supported re-openings later

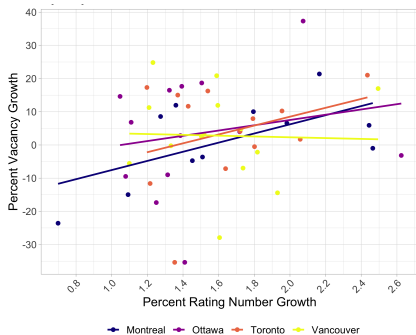


Status of businesses temporarily closed in April 2021 during lockdowns, after re-opening starts in May 2021

Ratings correlate with business continuation & employment



(a) More rated businesses remain in business



(b) More rated businesses hire more

Suggests online reviews and ratings matter for business dynamism

Conclusion

- **New timely tool to monitor small business dynamics**
 - ▶ Any area/sector but no history going back
 - ▶ Lines up well with COVID business restrictions
 - ▶ But some businesses permanently temporarily closed
- **Some patterns on business openings/closures**
 - ▶ During 3rd wave, up to 14% temporarily closed ; most re-opened
 - ▶ Fewer business ratings related to closures
 - ▶ More business ratings related to employment
- **Relates to several ongoing work**
 - ▶ Statistics Canada experimental estimates of business openings/closures (tax/registry data available only after 3 months)
 - ▶ Statistics Canada real-time local business conditions index (opening/closures and traffic flows)
 - ▶ Kurmann et al. (2021) look at employment around temporary closures