Main findings

- E-commerce sales data, not typically available for credit scoring, can enrich existing scoring models and improve their predictive power.

- Also, e-commerce data far removed from strictly financial characteristics, such as star ratings, can also be used as a predictor in credit scoring models.

- This is good news for the financially excluded in two ways, with further pilot testing needed:
  1. **Visibility**: First time credit assessment for customers with no formal financial history can be based on this alternative data.
  2. **Enrichment**: Thin financial data can be enriched for unbanked segments to better assess their risk.

- Almost 40% of the active sellers under analysis do not have an open credit in the market, hinting at the huge opportunities of unbanked markets.
MercadoLibre in numbers

- MercadoLibre is the largest e-commerce ecosystem in Latin America and offers a wide range of services to sellers and buyers including marketplace, payments, advertising and e-building solutions.

- MercadoLibre operates in 13 countries including Argentina, Brazil, Chile, Colombia, Mexico, Peru and Venezuela. Based on unique visitors and page views, MercadoLibre is the market leader in the countries where it has a major presence.

- 2015 full year numbers:
  - **144.6 million registered users** by the end of the year.
  - **128.4 million items sold** through MercadoLibre, 26.8% growth over previous year, resulting in a gross merchandise volume of $7.2 billion.
  - **80.4 million total payment transactions**, 73.7% increase over previous year, for total payment volume of $5.2 billion.
  - **Consolidated net revenues of $651.8 million**, 17.1% increase over previous year.
Methodology

- Bi-variate analysis to test whether selected e-commerce variables rank sellers by credit score.

  - E-commerce variables were chosen from a pool of around 1,500 internal variables. Credit bureau data were retrieved for a segment of 12,794 active sellers in Argentina.
  - Argentine credit bureaus have almost universal reach given the high penetration of unique IDs, though roughly 50% have very “thin” information.
  - The Equifax/Veraz Argentina score used a range from 1 (most risky) to 999 (least risky). A derived ordinal variable was created with five categories, in which each category represents a range of 200.
  - Only showing statistically significant results 0.01 ANOVA (Brown-Forsythe and Welch statistics).

- **Definition of “unbanked”:** Sellers without an active credit line in the market for the last 5 years, taken from Equifax/BCRA.
The case for pilot testing is supported by the following:

1: Alternative data with good predictive power can be used to assess the creditworthiness of customers with no financial information, turning them from invisible to visible.

2: Imperfect correlation when considering more granular segments presents an opportunity to enrich existing models with these newly acquired data points. This is particularly true for credit scorecards built using limited information and strictly financial data. Perfect correlation would not add substantive information to existing models.
Variables 1:
Seller maturity, months operating with MercadoLibre

- Longer duration of engagement yields a higher (less risky) credit score, true also for unbanked sellers.
Variables 2: Star ratings or feedback from buyers

- Sellers with a higher percentage of positive feedback tend to have higher credit scores. The opposite happens when feedback is negative.
Variables 3: Recency and activity

Recency since last publication (in months)

- With recency of publication, longer time since last publication corresponds to a lower credit score (more risk).

Activity (for sellers with at least one sale in the past 12 months)

- The greater the activity in the past 12 months the higher (less risky) the credit score.
Variables 4: Sales growth, last 3 months vs. last 12 months

- Sellers who tend to increase their sales levels showed higher (less risky) credit scores.
Assessing the potential unbanked market

The average credit score is 715 for the banked population and 608 for the unbanked.

- Almost 40% of active sellers are unbanked.
- The unbanked are probably underrepresented here compared to other segments

Two opportunities:

1. **Visibility** of no-hits through alternative credit scoring (in market other than Argentina, where coverage is quasi/universal).

2. **Enrichment** of existing models to find new creditworthy customers.
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