Revising Tie Strength Effect in Emerging Countries’ Labor Markets

Reaching Information or Reducing Asymmetry? Evidence from Colombia

Thibaud Deguilhem
thibaud.deguilhem@u-paris.fr
Department of Economics – LADYSS
Université Paris Cité

INSNA SUNBELT 2022
Advances in Social Network Analysis in the French-speaking world

July 13, 2022
The paper

Social networks matter to understand the Colombian labor market

Theoretical approach

Original Data

Measures: a mixed approach

Empirical strategy

Findings

Discussion
Networks are a relevant approach to understand social and institutional processes which organize labor markets

- Importance of relational embeddedness to explain individual behavior and generate labor market outcomes in Developed Countries (Granovetter 1974, 1983, 1988; Petersen et al. 2000; Jackson, 2014; Gee et al., 2018)

- *A fortiori* in Developing Countries when formal institutions are failing, ineffective or non-existent (Nordman & Pasquier-Doumer 2015; Nicodemo & Garcia, 2015; Beeman, 2018)

Colombia: Servicio Nacional del Empleo (SNE) → created in 2013
Social networks matter in Bogota’s labor market

→ 2013 (before) - 2016 (3 years after)

How did you find your job?
Weak ties (WT): information to get a better job

Classical theory: Strength of Weak Ties (Granovetter, 1973) ➔ main mechanisms

- WT increase the quantity of information (overall)

- WT increase the reception of novel and non-redundant information, coming from other social circles: direct links to another group

Empirical confirmations

- Improving the chances of getting a job (Yakubovitch, 2005; Zenou, 2015)

  - Emerging context: Russia

- Increasing individual income (Wegner, 1991; Tassier, 2006; Greenberg & Fernandez, 2016)
Strong ties (ST): recommendation to get a better job

Strength of Strong Ties (Bian, 1997) → main mechanisms

- “People resist change and are uncomfortable with uncertainty. Strong ties constitute a base of trust that can reduce resistance and provide comfort in the face of uncertainty. This it will be argued that change is not facilitated by weak ties, but rather by a particular type of strong tie.” (Krackhardt, 1992).

  - Reciprocal social obligations: social cohesion (Coleman, 1988, 1990; Cheung & Gui, 2006)
  - Intermediate is motivated to recommend the good one (Obukhova, 2012) to maintain his/her reputation (Molm, 1997; Smith, 2012): I know more things about strong than weak relations...

Empirical confirmations

→ Improving the chances of getting a better professional position / income (Bian et al., 2015; Gee et al., 2018b; Obukhova & Zhang, 2017)

  • Various Emerging contexts: China (“Guanxi”), Brazil, Peru...
Weak ties vs. strong ties?

Both approaches seem to be efficient in labor markets...and appear contradictory!

What is the better (relational) way in the labor market?

The question is particularly crucial in Emerging contexts, affected by high inequality and weaknesses of labor market institutions (Berg & Kucera, 2015)

The answer depends on the labor market outcomes and most important problem...
Emerging contexts: **high inequality** $\rightarrow$ isolated social circles (Blau, 1964; DiMaggio & Garip, 2012): reaching information is important

$\rightarrow$ **Information problem** (Granovetter, 1983): actors have probably more cohesive networks and more ST than WT (Clarke, 2000; Xiao & Tsui, 2007)

**H1 Reaching information**: WT give an advantage to improve relative labor market outcome because they are “unique and direct bridges” between isolated social circles in society

Particularly in EC, people having and using WT are more likely to reach better job opportunity $\rightarrow$ Granovetter’s traditional argument
**Emerging contexts**: articulating high inequality with institutions’ weaknesses generates uncertainty problem → reaching information is not the most important problem in Emerging contexts

→ **Asymmetry problem** (Bian, 1997): institutions are failing and people have less trust in other social circles (Bjornskov, 2007) → strong ties are more likely to solve uncertainty in social exchange (Krackhardt, 2003) and generate better job matching (Hensvik and Skans 2016; Dustmann et al. 2016; Abel et al. 2017)

**H2 Reducing asymmetry**: ST work, because only an intermediate can insure a good recommendation (influence) through “indirect bridges”

★ In unequal context associated with institutions’ weaknesses, WT are needed but not sufficient for a ”big jump” (join another social circle) in the job market: upward mobility needs a clear and credible recommendation by strong ties and influential intermediate (Karlan et al., 2009)

...In line with the ‘relational chain’ literature (Rapoport, 1957; Milgram, 1967)
2-Step Original mixed data in Bogota

**STEP 1  ➔ QUANTITATIVE**

**GEIH-REDES (2016-2017)** ➔ Matched network data (REDES) with household data (GEIH)

- **Sampling method** ➔ Representative sample: 1,600 workers (1,450 who have more than 1 job experience)

- **Network data recollection:** Ego-centred network (Crossley et al., 2015; Mc Carty et al., 2019):
  - Name Generator ➔ Name Generator
  - Name Interpreters ➔ Ties and alter characteristics
  - Relational Matrix ➔ Network structure

Thibaud Deguilhem
Revising Tie Strength Effect in Emerging Countries
July 13, 2022
INSNA Sunbelt 2022
STEP 2  →  QUALITATIVE

76 narratives interviews on professional life (2017-2018) → quotas sampling method from representative REDES survey (2016-2017)

- Sampling method → Quotas (gender, sector and strata)

- Qualitative network data recollection (Crossley et al., 2015; Mc Carty et al., 2019):

  1. Relational resources for transitions

  2. Relational experiences: professional/personal life

  3. Relational environment and practices
Qualitative exploration (1)

✓ **WT** $\rightarrow$ Informational channel matters to increase income

Manuela (38-year-old woman living in stratum 3, "lower-middle class"): “I was a salesperson but I feel like “downgraded” compared to my knowledge in textile design ("pregrado"). I was looking for a new job and already had some scheduled interviews. Simultaneously, I also asked to a saleswoman from my current organization to help me. This saleswoman, Daniela, whom I considered only a professional relationship with who I discussed sometimes but “nothing more”, relayed the information that an important company in textile importation in Colombia was looking for someone for their design department. I sent my CV and, after a good job interview, I was recruited. I received a little more than in the last position but my living conditions didn’t change radically unfortunately”

Interview #13

$\rightarrow$ income in current job could be a good proxy for evaluating H1
Qualitative exploration (2)

✓ ST $\rightarrow$ recommendation is needed for substantial income mobility

Martina (49-year-old woman living in stratum 2): “I was going become unemployed after the closure of the hotel where I worked as receptionist and sometimes housekeeper. Fortunately, an amazing university teacher and a very good family friend, for whom my mother had worked as a maid for a very long time, recommended me to the university he worked for. Thanks to his help and his words, I was hired in this institution as a housekeeper and earned a higher income (much more) than at the hotel. “I have no words to describe my current good working conditions from all points of view”. Muchisimas gracias al ”doctor”! ”

Interview #37

gap between last job and current job income could be a good proxy for evaluating H2
Measuring the “strength of ties”...

<table>
<thead>
<tr>
<th>Expressive</th>
<th>Social</th>
<th>Geographical</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Brady (2015)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Kramarz and Skans (2014)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Tian and Lin (2016)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Giulietti et al. (2018)</td>
<td></td>
</tr>
</tbody>
</table>

Source: Adapted from Gomez and Verd (2013).

Adapted from Gomez and Verd (2013)

Network dimension aggregated at ego level

- **Expressive** → categorical variable: major part of the network is trusted and frequent alters with reciprocal trust...

- **Social** → categorical variable: major part of the network is family, friends...

- **Geographical** → categorical variable: major part of the alters live in the same block...

1In case of same proportion, we select the first link (7% of the sample).
Measuring the “strength of ties”: MCA method

MCA Projection (standardized plot) of tie strength categories (for each variable)

coordinates in standard normalization

Expressive  Social  Geographical
Measuring the “strength of ties”: MCA method

- Exploratory and multidimensional Method: Multidimensional index of ties’ strength on categorical variables $\rightarrow$ For each $i$, $ST_i$ is the individual score on the first axis multiplied by $-1$
  - negative = weak ties / positive = strong ties

Distribution of multidimensional index of the strength of ties ($ST_i$)
Quasi-experimental approach: Instrumental variable (IV)

\[ LnY_i = \beta_0 + ST_i \beta_1 + X_i \beta_2 + Z_i \beta_3 + E_i \beta_4 + N_i \beta_5 + \lambda_i \beta_6 + \varepsilon_i \]

\[ P(Y = 1 | ST, X, Z, E, N, \lambda) = G(\beta_0 + ST_i \beta_1 + X_i \beta_2 + Z_i \beta_3 + E_i \beta_4 + N_i \beta_5 + \lambda_i \beta_6) \]

- **Dependent variables:**
  1. Monthly income (current job) for workers who have change
  2. At least 15% more in the current job than in the last one (dummy):\(^2\) income mobility (substantial)

- **Independent variables:**
  1. Variable of Interest \(\rightarrow\) Strength of ties multidimensional index \((ST_i)\) \(\leftrightarrow\) Minimal duration of interaction in the network (IV)
  2. Controls \(\rightarrow\) individual \((X_i)\), household \((Z_i)\), employment \((E_i)\) and relational context \((R_i)\)

- **Selection bias (27% found a job without relations)** \(\rightarrow\) IMR \((\lambda_i, 2S\) Heckman\)

\(^2\) We checked the robustness for each point of the variation between 5% to 30%.
Econometrics: IV justification

STRENGTH OF TIES


Empirical justification:
High correlation ($r = 0.43^{***}$)

Minimal duration in personal network

LABOR MARKET OUTCOMES

?
### Table 1: Dep. var: monthly income (log) current job

<table>
<thead>
<tr>
<th></th>
<th>OLS (1)</th>
<th>OLS (2)</th>
<th>OLS (3)</th>
<th>2SLS (4)</th>
<th>2SLS (5)</th>
<th>2SLS (6)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ST index</strong></td>
<td>- (**)</td>
<td>- (**)</td>
<td>- (**)</td>
<td>- (*)</td>
<td>- (*)</td>
<td>- (*)</td>
</tr>
<tr>
<td><strong>Net. size</strong></td>
<td></td>
<td></td>
<td>no sig.</td>
<td></td>
<td></td>
<td>no sig.</td>
</tr>
<tr>
<td><strong>Prof. sim.</strong></td>
<td></td>
<td></td>
<td>no sig.</td>
<td></td>
<td></td>
<td>no sig.</td>
</tr>
<tr>
<td><strong>Ind. cont.</strong></td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td><strong>HH. cont.</strong></td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td><strong>Sector</strong></td>
<td></td>
<td>✓</td>
<td>✓</td>
<td></td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td><strong>Exp</strong></td>
<td></td>
<td>✓</td>
<td>✓</td>
<td></td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td><strong>λ</strong></td>
<td></td>
<td></td>
<td></td>
<td>+ (*** )</td>
<td>+ (*** )</td>
<td>+ (*** )</td>
</tr>
</tbody>
</table>
Table 2: Dep. var: at least 15% more in income (dummy)

<table>
<thead>
<tr>
<th></th>
<th>Pro. (1)</th>
<th>Pro. (2)</th>
<th>Pro. (3)</th>
<th>IVP. (4)</th>
<th>IVP. (5)</th>
<th>IVP. (6)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ST index</td>
<td>+ (**)</td>
<td>+ (**)</td>
<td>+ (**)</td>
<td>+ (**)</td>
<td>+ (**)</td>
<td>+ (*)</td>
</tr>
<tr>
<td>Net. size</td>
<td>.</td>
<td>.</td>
<td>no sig.</td>
<td>.</td>
<td>.</td>
<td>no sig.</td>
</tr>
<tr>
<td>Prof. sim.</td>
<td>.</td>
<td>.</td>
<td>no sig.</td>
<td>.</td>
<td>.</td>
<td>no sig.</td>
</tr>
<tr>
<td>Ind. cont.</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>HH. cont.</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Sector</td>
<td>.</td>
<td>✓</td>
<td>✓</td>
<td>.</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Exp</td>
<td>.</td>
<td>✓</td>
<td>✓</td>
<td>.</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>λ</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+ (*)&amp;</td>
<td>+</td>
</tr>
</tbody>
</table>
1. Both approaches are complementary... WT work to improve income (reaching information) but for a “big jump”, ST work better than WT (solving asymmetry)

- Colombia (Bogota) confirms some studies in Emerging countries → strength of ties matters to evaluate the effect of social networks in labor markets. However, effects depend of the outcome considered / informational problem to solve

- Both weak ties and strong ties work and results are not contradictory!

- Results are particularly interesting to understand how unequal contexts stay unequal confirming the literature (Gee et al., 2018b)

2. Inequality ←→ Networks: macro issue in Colombia → one of the highest Gini coefficient in Latin America (WID, 2018)

- Do positive effects of strong ties maintain high inequality?

- Does high inequality generate positive effects of strong ties?
Thank you for your attention
Reminder: Personal network dimensions
1 ¿Cuáles son los nombres (sin apellido) de las personas que le ayudaron o intentaron ayudar a buscar su empleo o trabajo actual durante los doce meses anteriores a conseguirlo?

<table>
<thead>
<tr>
<th>No. de Orden</th>
<th>Nombre</th>
<th># de personas: P1741</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td>P1741S1</td>
</tr>
<tr>
<td>2</td>
<td></td>
<td>P1741S2</td>
</tr>
<tr>
<td>3</td>
<td></td>
<td>P1741S3</td>
</tr>
<tr>
<td>4</td>
<td></td>
<td>P1741S4</td>
</tr>
<tr>
<td>5</td>
<td></td>
<td>P1741S5</td>
</tr>
<tr>
<td>6</td>
<td></td>
<td>P1741S6</td>
</tr>
<tr>
<td>7</td>
<td></td>
<td>P1741S7</td>
</tr>
<tr>
<td>8</td>
<td></td>
<td>P1741S8</td>
</tr>
<tr>
<td>9</td>
<td></td>
<td>P1741S9</td>
</tr>
<tr>
<td>10</td>
<td></td>
<td>P1741S10</td>
</tr>
</tbody>
</table>

Piense en las personas que intentaron ayudarle. Por ejemplo, dándole información sobre empleos potenciales, presentándole a otras personas, etc. No es necesario que el trabajo que consiguió haya sido a través de esta persona. Incluya también personas que le intentaron ayudar sin que usted estuviera buscando trabajo.
<table>
<thead>
<tr>
<th>Antes de que le ayudaran en su búsqueda de empleo.</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>¿Cuántas veces interactuó con ...? (considere un periodo normal de seis meses)</td>
<td></td>
</tr>
<tr>
<td>a. Nunca</td>
<td>1</td>
</tr>
<tr>
<td>b. Una (1) o dos (2) veces en un periodo de 6 meses</td>
<td>2</td>
</tr>
<tr>
<td>c. Todos o casi todos los meses</td>
<td>3</td>
</tr>
<tr>
<td>d. Todas o casi todas las semanas</td>
<td>4</td>
</tr>
<tr>
<td>e. Todos o casi todos los días</td>
<td>5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Aquí le vamos a preguntar la confianza de usted en esta persona. Luego en la siguiente pregunta la confianza que usted cree que esta persona tiene en usted.</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>¿Para qué tipos de problemas confiaba usted en ... antes de que le ayudara a buscar su empleo actual? Pueden ser problemas personales, de trabajo, de salud, de familia, etc.</td>
<td></td>
</tr>
<tr>
<td>a. Para los problemas más importantes o más graves</td>
<td>1</td>
</tr>
<tr>
<td>b. Para problemas importantes pero no los más importantes</td>
<td>2</td>
</tr>
<tr>
<td>c. Para problemas no demasiado importantes</td>
<td>3</td>
</tr>
<tr>
<td>d. Para problemas pequeños o sencillos</td>
<td>4</td>
</tr>
<tr>
<td>e. Para ningún tipo de problemas</td>
<td>5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>¿Para qué tipos de problemas confiaba ... en usted antes de que le ayudaran a buscar su empleo actual? Pueden ser problemas personales, de trabajo, de salud, de familia, etc.</th>
<th>11</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>a. Para los problemas más importantes o más graves</td>
<td>1</td>
</tr>
<tr>
<td>b. Para problemas importantes pero no los más importantes</td>
<td>2</td>
</tr>
<tr>
<td>c. Para problemas no demasiado importantes</td>
<td>3</td>
</tr>
<tr>
<td>d. Para problemas pequeños o sencillos</td>
<td>4</td>
</tr>
<tr>
<td>e. Para ningún tipo de problemas</td>
<td>5</td>
</tr>
</tbody>
</table>
Antes de que le ayudaran en su búsqueda de empleo ¿Algunos de estos contactos se conocían entre sí?

Para cada posible combinación. Por ejemplo:

- La persona 2 con la persona 1
- La persona 3 con la persona 1
- Etc.

Marque si estas dos personas:
- 1 = Se conocían muy bien
- 2 = Se conocían
- 3 = No se conocían
- 4 = No sabe / No responde

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

# de persona respecto a quien se pregunta: P1733S1
¿Qué tanto se conocen: P1733S2
### Table 3: Dep. var: monthly income (log) current job, top 25%

<table>
<thead>
<tr>
<th>Variables</th>
<th>OLS (1)</th>
<th>OLS (2)</th>
<th>OLS (3)</th>
<th>2SLS (4)</th>
<th>2SLS (5)</th>
<th>2SLS (6)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ST index</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Net. size</td>
<td>.</td>
<td>.</td>
<td>no sig.</td>
<td>.</td>
<td>.</td>
<td>no sig.</td>
</tr>
<tr>
<td>Prof. sim.</td>
<td>.</td>
<td>.</td>
<td>no sig.</td>
<td>.</td>
<td>.</td>
<td>no sig.</td>
</tr>
<tr>
<td>Ind. cont.</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>HH. cont.</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Sector</td>
<td>.</td>
<td>✓</td>
<td>✓</td>
<td>.</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Exp</td>
<td>.</td>
<td>✓</td>
<td>✓</td>
<td>.</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>(\lambda)</td>
<td>(+ (***))</td>
<td>(+ (***)</td>
<td>(+ (***)</td>
<td>(+ (***)</td>
<td>(+ (***)</td>
<td>(+ (***)</td>
</tr>
</tbody>
</table>
ST improve substantial income mobility (Top 25% income)

Table 4: Dep. var: at least 15% more in income (dummy), top 25% income

<table>
<thead>
<tr>
<th>ST index</th>
<th>Pro. (1)</th>
<th>Pro. (2)</th>
<th>Pro. (3)</th>
<th>IVP. (4)</th>
<th>IVP. (5)</th>
<th>IVP. (6)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ST index</td>
<td>+ (*)</td>
<td>+ (**)</td>
<td>+ (*)</td>
<td>+ (***</td>
<td>+ (***</td>
<td>+ (***</td>
</tr>
<tr>
<td>Net. size</td>
<td>.</td>
<td>.</td>
<td>- (**</td>
<td>.</td>
<td>.</td>
<td>- (**)</td>
</tr>
<tr>
<td>Prof. sim.</td>
<td>.</td>
<td>.</td>
<td>no sig.</td>
<td>.</td>
<td>.</td>
<td>no sig.</td>
</tr>
<tr>
<td>Ind. cont.</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>HH. cont.</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Sector</td>
<td>.</td>
<td>✓</td>
<td>✓</td>
<td>.</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Exp</td>
<td>.</td>
<td>✓</td>
<td>✓</td>
<td>.</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>λ</td>
<td>-</td>
<td>+ (**)</td>
<td>+ (**)</td>
<td>-</td>
<td>+ (**)</td>
<td>+ (**)</td>
</tr>
</tbody>
</table>