The Game Lasts Longer than 90 Minutes – Empirical Analysis of the Regional Effects of a Premier League Soccer Club

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Niederrhein University of Applied Sciences, Germany

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Introduction

• Empirical Studies on regional effects of soccer clubs normally focus on demand-side effects, i.e. regional multiplier analysis.

• But there seems to be “something more” – beyond regional multipliers\(^1\)

• The presentation does not only deal with “traditional demand side analysis” …

• … but also tries to find out, if there is something beyond.
Theoretical Considerations

Literature distinguishes demand and supply side effects:

• Demand side effects:
  o Direct effect – regional employment, income and gross value added
  o Indirect effects – Investment, demand for intermediate goods and expenses of fans – regional employment, income and value added
  o Induced effects via regional income cycle – regional employment, income and value added

• Supply side effects:
  o Improvement of awareness level and image
  o Regional location factor
  o Regional „psychological income“
  o Nucleus of a regional communication and cooperation network
Research Objectives, Design and Methods

Research Objective

• To empirically analyse all kind of effects of soccer clubs for their surrounding region as complete as possible

Research Design: Case study for …

• … Borussia Mönchengladbach
• Who knows the city? Who knows the soccer club?
Research Objectives, Design and Methods

Research design for demand side effects

- Regional multiplier analysis
- Iterative procedure using information from national input-output-tables
- Calculation of regional multipliers = overall effect / direct effect
- Overall effect = direct + indirect + induced effect

Research Design for supply side effects

- Analysis of “Advertising Value Equivalency (AVE)” based on media coverage analysis
- Basic network analysis
- Three surveys conducted in autumn 2013:
  - Audience of soccer matches (n = 913), Face-to-face pedestrian (n = 579), Family-and-friends online (n = 265)
Research Objectives, Design and Methods

Differing survey population used for differing analysis aspects:

- Total data set (seldom)
- Reduced data set without audience of matches (in some cases)
- Clustered data set (in most cases)

### Origin: Fan-Region

- **Fan of Borussia**
  - Home-Fan: \( n = 342 \) (22.9% of Sample)
- **Non-Fan of Borussia**
  - Regional Non-Fan: \( n = 182 \) (17.8% of Sample)

### Origin: Outside of Fan-Region

- **Fan of Borussia**
  - Satellite-Fan: \( n = 265 \) (17.8% of Sample)
- **Non-Fan of Borussia**
  - Outsider: \( n = 409 \) (27.4% of Sample)
Empirical Results – Demand Side Effects in the City

Results: Direct, Indirect and Induced Economic Impacts (City)

Borussia VfL 1900 Mönchengladbach

Direct Impacts
- Income: 44.3 Mio. €
- Value Added: 64.5 Mio. €
- Employment: 211
- Gross Production: 95.8 Mio €

Multiplier
- Income: 1.39 – 1.55
- Value Added: 1.46 – 1.66
- Employment: 3.13 – 4.01
- Gross Production: 1.60 – 1.87

Indirect Impacts
- Income: 13.8 – 17.9 Mio. €
- Value Added: 23 – 29.5 Mio. €
- Employment:
- Gross Production: 44.1 - 56.7 Mio €

Induced Impacts
- Income: 3.4 – 6.7 Mio €
- Value Added: 6.6 – 13.2 Mio €
- Employment: 695 - 982
- Gross Production: 13.5 - 26.9 Mio €

Total Income, Employment and Value Added Effects
Empirical Results – Demand Side Effects in the Region

### Results: Direct, Indirect and Induced Economic Impacts (Region)

#### Borussia VfL 1900 Mönchengladbach

**Direct Impacts**
- Income: 44.3 Mio. €
- Value Added: 64.5 Mio. €
- Employment: 211
- Gross Production: 95.8 Mio €

**Indirect Impacts**
- Value Added: 24.3 – 33.4 Mio. €
- Employment: 211
- Gross Production: 46.6 - 64.2Mio €

**Induced Impacts**
- Income: 4.6 – 9.4 Mio €
- Value Added: 9.0 – 18.7 Mio €
- Employment: 749 – 1,162
- Gross Production: 18.8 - 39.2 Mio€

**Multiplier**
- Income: 1.42 – 1.66
- Value Added: 1.52 – 1.81
- Employment: 4.55 – 6.51
- Gross Production: 1.68 – 2.08

**Total Income, Employment and Value Added Effects**

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Empirical Results – Supply Side Effects
Overview of regional location effects

In your opinion, how much does the soccer club BMG contribute to the following effects?

<table>
<thead>
<tr>
<th>Effect</th>
<th>Not at all</th>
<th>Very much</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identification of population with home town</td>
<td>1.9</td>
<td>3.02</td>
</tr>
<tr>
<td>Improvement of leisure time facilities</td>
<td>2.37</td>
<td>2.99</td>
</tr>
<tr>
<td>Tourism development</td>
<td>2.64</td>
<td>2.99</td>
</tr>
<tr>
<td>Increase of retail sales</td>
<td>2.78</td>
<td>3.02</td>
</tr>
<tr>
<td>Increase of level of awareness (inland)</td>
<td>2.8</td>
<td></td>
</tr>
<tr>
<td>Increase of international level of awareness</td>
<td>3.02</td>
<td></td>
</tr>
<tr>
<td>Image improvement of the city</td>
<td>3.02</td>
<td></td>
</tr>
</tbody>
</table>

N = 844, pedestrian and F&F-surveys

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Based on Pedestrian and F&F-Surveys, n = 844
Empirical Results – Supply Side Effects
Increase of City’s Level of Awareness - Inland

- 93.5% of the home-fans think that the club increases national awareness of the city
- Even 70.1% of the outsiders believe so

<table>
<thead>
<tr>
<th></th>
<th>Home-Fan</th>
<th>Satellite-Fan</th>
<th>Regional Non-Fan</th>
<th>Outsider</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very strong</td>
<td>64,5%</td>
<td>56,0%</td>
<td>30,5%</td>
<td>24,3%</td>
</tr>
<tr>
<td>Strong</td>
<td>29,0%</td>
<td>33,6%</td>
<td>45,8%</td>
<td>45,8%</td>
</tr>
<tr>
<td>Medium</td>
<td>4,4%</td>
<td>7,6%</td>
<td>19,2%</td>
<td>22,1%</td>
</tr>
<tr>
<td>Low</td>
<td>1,5%</td>
<td>1,2%</td>
<td>2,3%</td>
<td>3,8%</td>
</tr>
<tr>
<td>No Effects</td>
<td>0,6%</td>
<td>1,6%</td>
<td>2,3%</td>
<td>4,1%</td>
</tr>
</tbody>
</table>

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Data based on all surveys, N = 1757
Empirical Results – Supply Side Effects
Increase of City’s International Level of Awareness

- About 75% of the two fan groups believe that Borussia increases the city’s international awareness
- Nearly 30% of the outsiders believe in these effects, too

<table>
<thead>
<tr>
<th></th>
<th>Home-Fan</th>
<th>Satellite-Fan</th>
<th>Regional Non-Fan</th>
<th>Outsider</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Very strong</strong></td>
<td>44,3%</td>
<td>39,9%</td>
<td>11,3%</td>
<td>9,8%</td>
</tr>
<tr>
<td><strong>Strong</strong></td>
<td>30,8%</td>
<td>34,3%</td>
<td>22,6%</td>
<td>19,1%</td>
</tr>
<tr>
<td><strong>Medium</strong></td>
<td>21,0%</td>
<td>20,2%</td>
<td>36,7%</td>
<td>30,5%</td>
</tr>
<tr>
<td><strong>Low</strong></td>
<td>3,0%</td>
<td>4,4%</td>
<td>18,6%</td>
<td>31,3%</td>
</tr>
<tr>
<td><strong>No Effects</strong></td>
<td>,9%</td>
<td>1,2%</td>
<td>10,7%</td>
<td>9,3%</td>
</tr>
</tbody>
</table>

Data based on all surveys, N = 1757
Empirical Results – Supply Side Effects
Value of Borussia’s Media Coverage for the City

What would the city Mönchengladbach have to pay for the TV media coverage it received for free by the TV presence of the soccer club BMG?

Advertising Value Equivalency (AVE)
→ Calculation: Media exposure (broadcast time * number of viewers) divided by 1.000 * TCP (thousand contact price, price per 1.000 page impressions)
→ As the city cannot influence the broadcasting content, we calculate a low estimation of TCP (5% of average TCP in last three years) and a high estimation (10% of average TCP in last three years)

Season 2011/12: 18.062 Mio media exposure / 1,000 * 0.69TCP (l.e.) accordingly 1.39 (h.e.)
AVE = 12.46 Mio. € (low estimation) and accordingly 25.05 Mio. € (high estimation)

Season 2012/13: 14,087 Mio media exposure / 1,000 * 0.69TCP (l.e.) accordingly 1.39 (h.e.)
AVE = 10,34 Mio. € (low estimation) and accordingly 20,79 Mio. € (high estimation)
Empirical Results – Supply Side Effects
Image Improvement

- About 30% of the two fan groups believe that Borussia MG improves the city’s image
- Only 8% of the outsiders believe in these effects

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Data based on all surveys, N = 1757
Empirical Results – Supply Side Effects
Attributes of City and Club

Survey Participants rated image-forming attributes for the city of Mönchengladbach and the soccer club BMG

<table>
<thead>
<tr>
<th>Attribute</th>
<th>City</th>
<th>Club</th>
</tr>
</thead>
<tbody>
<tr>
<td>Friendly, likable</td>
<td>1.82</td>
<td>1.40</td>
</tr>
<tr>
<td>Modern, cosmopolitan</td>
<td>2.17</td>
<td>1.56</td>
</tr>
<tr>
<td>Inspiring</td>
<td>2.20</td>
<td>1.45</td>
</tr>
<tr>
<td>Family-friendly</td>
<td>1.92</td>
<td>1.51</td>
</tr>
<tr>
<td>Successful</td>
<td>2.19</td>
<td>1.66</td>
</tr>
<tr>
<td>Young, dynamic</td>
<td>2.14</td>
<td>1.48</td>
</tr>
<tr>
<td>Boring</td>
<td>2.21</td>
<td>2.63</td>
</tr>
</tbody>
</table>

Based on Pedestrian and F&B-Surveys, n = 844
Empirical Results
Attributes of City & Club
– Ratings by Fan Groups

- **Scale:**
  1 – Applies
  2 – Partially applies
  3 – Does not apply

- **Expectation in case of transfer:**
Fans evaluate soccer club AND city more positive than non-fans
→ this can be observed
→ points tend to move to the upper right corner of the diagram, meaning that home-fans give better ratings to both – club and city

Data based on all surveys, N = 1757
Empirical Results
Attributes of City & Club
- Ratings by Fan Groups

• Scale:
  1 – Applies
  2 – Partially applies
  3 – Does not apply

• The same can be observed comparing satellite fans and outsiders.

• Points tend to move to the upper right corner of the diagram, meaning that satellite-fans give better ratings to both club and city.

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Data based on all surveys, N = 1757
Empirical Results – Supply Side Effects
Regional „psychological income“

- Psychological benefit of population due to existence of soccer club
- Self-assurance, self-esteem, pride, patriotism, identification

Survey: „Imagine, BMG would face bankruptcy. How much would you be willing to donate for the soccer club in this year, to continually avoid this situation?“

<table>
<thead>
<tr>
<th>Fan-Cluster</th>
<th>Willingness to donate, Ø</th>
</tr>
</thead>
<tbody>
<tr>
<td>Home-Fan</td>
<td>110.58€</td>
</tr>
<tr>
<td>Satellite-Fan</td>
<td>97.51€</td>
</tr>
<tr>
<td>Regional Non-Fan</td>
<td>7.04€</td>
</tr>
<tr>
<td>Outsider</td>
<td>5.22€</td>
</tr>
<tr>
<td><strong>Total Sample, Ø</strong></td>
<td><strong>53.60€</strong></td>
</tr>
</tbody>
</table>

Pedestrian and F&F-surveys, participants that live in Mönchengladbach: 42.95€

Calculation of total willingness to donate in Mönchengladbach per year:
(Population in Mönchengladbach older than 15 years: 222,518)

9,557,148 €
Empirical Results
Nucleus of regional communication and cooperation network

Based on information received by Borussia Mönchengladbach, 2014
## Empirical Results: Effects on tourism industry

<table>
<thead>
<tr>
<th>Month</th>
<th>Opponent</th>
<th>Travel distance to opponent’s home city</th>
<th>Travel distance category</th>
<th>Viewers in stadium</th>
<th>Overnight stays for soccer games; calculation based on own survey results</th>
<th>For comparison: number of overnight stays in hotels in Mönchengladbach</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aug</td>
<td>Hoffenheinm</td>
<td>382 km</td>
<td>2</td>
<td>49,645</td>
<td>3574</td>
<td>20,739</td>
</tr>
<tr>
<td>Sep</td>
<td>Nürnberg</td>
<td>488 km</td>
<td>3</td>
<td>51,791</td>
<td>4811</td>
<td>22,218</td>
</tr>
<tr>
<td></td>
<td>HSV</td>
<td>429 km</td>
<td>3</td>
<td>46,028</td>
<td>4276</td>
<td></td>
</tr>
<tr>
<td>Oct</td>
<td>Frankfurt</td>
<td>261 km</td>
<td>2</td>
<td>50,490</td>
<td>3635</td>
<td>22,368</td>
</tr>
<tr>
<td>Nov</td>
<td>Freiburg</td>
<td>480 km</td>
<td>3</td>
<td>47,373</td>
<td>4400</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Stuttgart</td>
<td>413 km</td>
<td>3</td>
<td>51,922</td>
<td>4823</td>
<td>21,078</td>
</tr>
<tr>
<td></td>
<td>Wolfsburg</td>
<td>414 km</td>
<td>3</td>
<td>39,363</td>
<td>3656</td>
<td></td>
</tr>
<tr>
<td>Dec</td>
<td>Mainz</td>
<td>231 km</td>
<td>2</td>
<td>46,483</td>
<td>3346</td>
<td>13,439</td>
</tr>
<tr>
<td>Jan</td>
<td>Düsseldorf</td>
<td>38,2 km</td>
<td>1</td>
<td>49,109</td>
<td>3236</td>
<td>15,496</td>
</tr>
<tr>
<td>Feb</td>
<td>Leverkusen</td>
<td>74.9 km</td>
<td>1</td>
<td>45,802</td>
<td>3018</td>
<td>14,723</td>
</tr>
<tr>
<td></td>
<td>Dortmund</td>
<td>101 km</td>
<td>1</td>
<td>53,588</td>
<td>3531</td>
<td></td>
</tr>
<tr>
<td>Mar</td>
<td>Bremen</td>
<td>324 km</td>
<td>2</td>
<td>53,626</td>
<td>3861</td>
<td>20,240</td>
</tr>
<tr>
<td></td>
<td>Hannover</td>
<td>345 km</td>
<td>2</td>
<td>45,976</td>
<td>3310</td>
<td></td>
</tr>
<tr>
<td>Apr</td>
<td>Fürth</td>
<td>463 km</td>
<td>3</td>
<td>49,981</td>
<td>4643</td>
<td>19,247</td>
</tr>
<tr>
<td></td>
<td>Augsburg</td>
<td>570 km</td>
<td>3</td>
<td>49,560</td>
<td>4604</td>
<td></td>
</tr>
<tr>
<td>May</td>
<td>Schalke</td>
<td>92.9 km</td>
<td>1</td>
<td>53,782</td>
<td>3544</td>
<td>20,467</td>
</tr>
<tr>
<td></td>
<td>Bayern</td>
<td>630 km</td>
<td>3</td>
<td>53,774</td>
<td>4995</td>
<td></td>
</tr>
<tr>
<td>Jun/Jul</td>
<td>No matches</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>42356</td>
</tr>
</tbody>
</table>

Total 67,263 232,371
Summary

Main Results:

→ Demand side effects
  • Multiplier effects comparable to other branches, exception: very high employment multiplier

→ Supply side effects
  • Borussia Mönchengladbach increases the city’s national and international level of awareness
  • The club improves the city’s image
  • Psychological income
  • Enhances regional communication and cooperation network
  • Supports tourism industry
  • Analysis suggests a transfer of image from the club to the city
Thank you for your attention!


### Empirical Results – Demand Side Effects in the City

Effects on Income, Value Added, Employment and Gross Production within the city MG

#### (1) High Estimation

<table>
<thead>
<tr>
<th>Total Effects</th>
<th>Income</th>
<th>Value Added</th>
<th>Employment</th>
<th>Gross Production</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct Effect</td>
<td>44,314,000€</td>
<td>64,467,057€</td>
<td>211</td>
<td>95,759,657€</td>
</tr>
<tr>
<td>Indirect Effect (Investment, expenditure)</td>
<td>1,883,002€</td>
<td>3,863,140€</td>
<td></td>
<td>7,087,000€</td>
</tr>
<tr>
<td>Indirect Effect (Expenses of fans and visitors)</td>
<td>15,980,518€</td>
<td>25,622,348€</td>
<td></td>
<td>49,588,342€</td>
</tr>
<tr>
<td>Induced Effects</td>
<td>6,720,651€</td>
<td>13,246,288€</td>
<td>982</td>
<td>26,933,734€</td>
</tr>
<tr>
<td><strong>Total Effect</strong></td>
<td>68,898,171€</td>
<td>107,198,833€</td>
<td>1.193</td>
<td>179,368,733€</td>
</tr>
<tr>
<td><strong>Multiplier</strong></td>
<td>1.55</td>
<td>1.66</td>
<td>4.01</td>
<td>1.87</td>
</tr>
</tbody>
</table>

#### (2) Low Estimation

<table>
<thead>
<tr>
<th>Total Effects</th>
<th>Income</th>
<th>Value Added</th>
<th>Employment</th>
<th>Gross Production</th>
</tr>
</thead>
<tbody>
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<td>1,883,002€</td>
<td>3,863,140€</td>
<td></td>
<td>7,087,000€</td>
</tr>
<tr>
<td>Indirect Effect (Expenses of fans and visitors)</td>
<td>11,929,163€</td>
<td>19,126,612€</td>
<td></td>
<td>37,016,786€</td>
</tr>
<tr>
<td>Induced Effects</td>
<td>3,386,072€</td>
<td>6,644,527€</td>
<td>695</td>
<td>13,462,157€</td>
</tr>
<tr>
<td><strong>Total Effect</strong></td>
<td>61,512,237€</td>
<td>94,101,336€</td>
<td>906</td>
<td>153,325,600€</td>
</tr>
<tr>
<td><strong>Multiplier</strong></td>
<td>1.39</td>
<td>1.46</td>
<td>3.13</td>
<td>1.60</td>
</tr>
</tbody>
</table>

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