

# Linear Regression... on Vinyl?

Predicting Record Prices from Release Data

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# Background

A grayscale background image of a vinyl record spinning on a turntable. A tonearm is positioned over the record, and the record's surface shows motion blur, indicating it is in motion.


- Discogs.com is a music *database* and *marketplace*
- A *release* is a specific issue on some medium
  - Database of releases
  - Releases as marketplace units
- Release data  $\Rightarrow$  seller prices?

- Format
- Year
- Have-to-want ratio
- Number of ratings
- etc.

Many are log'd.

Discoogs
Search artists, albums and more.
Explore • Marketplace • Community
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**Manuel Göttsching – E2-E4**

Label: MG ART – MG ART 904

Format: Vinyl, LP Album, Reissue, Embossed Cover

Country: Germany

Released: Sep 2016

Genre: Electronic

Style: Minimal, Ambient

[More Images](#)

### Tracklist

A1	Ruhige Nervosität
A2	Gemäßigter Aufbruch
A3	... Und Mittelspiel
A4	Ansatz
B1	Damen-Eleganz
B2	Ehrenvoller Kampf
B3	Hohheit Weicht (Nicht Ohne Schwung...)
B4	... Und Souveränität
B5	Remis

**Companies, etc.**

Lacquer Cut At – Schnitstelle (2)  
Recorded At – Studio Roma  
Photographic Copyright (p) – Manuel Göttsching  
Copyright (c) – MG ART

**Credits**

Design – Dirk Trageser  
Guitar, Electronics, Producer, Composed By – Manuel Göttsching  
Lacquer Cut By – Andreas\*  
Photography By – Sven Marquardt, Ulrich Kilian

**Notes**

LP Made In France (sticker over shrink)  
Recorded, 12.12.1981 at Studio Roma, Berlin.  
Side 1 time : 31'38  
Side 2 time : 23'00

Printed inner sleeve.

© MCMLXXXIV Manuel Göttsching  
© MMXVI MG ART

© 1984 Manuel Göttsching  
© 2016 MG ART


**Barcode And Other Identifiers**

Barcode (Text): 4 260017 398641  
Barcode (Scanned): 4260017590041  
Label Code: LC 11781  
Rights Society: GEMA  
Matrix / Runout (A Side Runout): MG ART 904 A andreas at schnitstelle  
Matrix / Runout (B Side Runout): MG ART 904 B andreas at schnitstelle

**Other Versions (5 of 26)**   View All

Title (Format)	Label	Cat#	Country	Year
E2-E4 (LP, Album, Ltd)	Inleam GmbH	ID 20.004	Germany	1984
E2-E4 (25th Anniversary) (CD, Album, RE, Dig)	MG ART	MG-ART 304	Germany	2006
E2-E4 (LP, Album, RE, Unofficial)	Spatax Music (2)	14141	Europe	2014
E2-E4 (LP, Album)	Inleam GmbH	ID 20.004	Germany	1984
E2-E4 (LP, Album, RE)	Spatax Music	SPALAXLP14141	France	2004

**Recommendations**



**Release** ⓘ 18889473

Edit Release  
All Versions of this Release  
Data Correct

**In Collection** Added about 1 year ago [Remove](#)

Media Condition	Edit
Sleeve Condition	Edit
Notes	Edit
lyrd	Edit


**Marketplace**

☆☆☆☆
Share

**Statistics**

Have:	2263	Last Sold: 08 Dec 19
Want:	1073	Lowest: \$19.00
Avg Rating:	4.76 / 5	Median: \$25.39
Ratings:	254	Highest: \$32.98

**Videos (5)**   Edit



Manuel Göttsching - E2-E4 Part 1 of 6

Manuel Göttsching — E2-E4 (1981/Full album)

Manuel Göttsching - 'E2-E4 (Mondo Disco Edit)'

**Lists**   Add to List

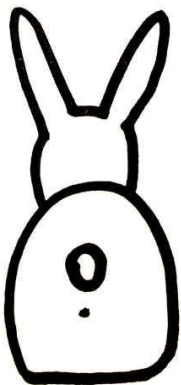
DJ spinnerR's Loft & Garage Selection by A-B-spinnerR  
Essential for general education - selected records, tunes and songs by A-B-spinnerR  
Records that i recommended to my friends 2016 by Grueser/Fee  
Records for Max to Look For by ericnbarroso  
The Best of the Best by blackfrog2008  
FACTMAG Best Reissues of 2006-2016 by pablidiscober  
2016-Re+Comp by kidub  
new arrivals late-November 2016 by transition

**Contributors**

AuGold, duchesne, solarmusic, guitarhero, chezemile, twinkistofred, d\_electronique, ry\_at, JayDeeCee, ryanp, zevulon

Report

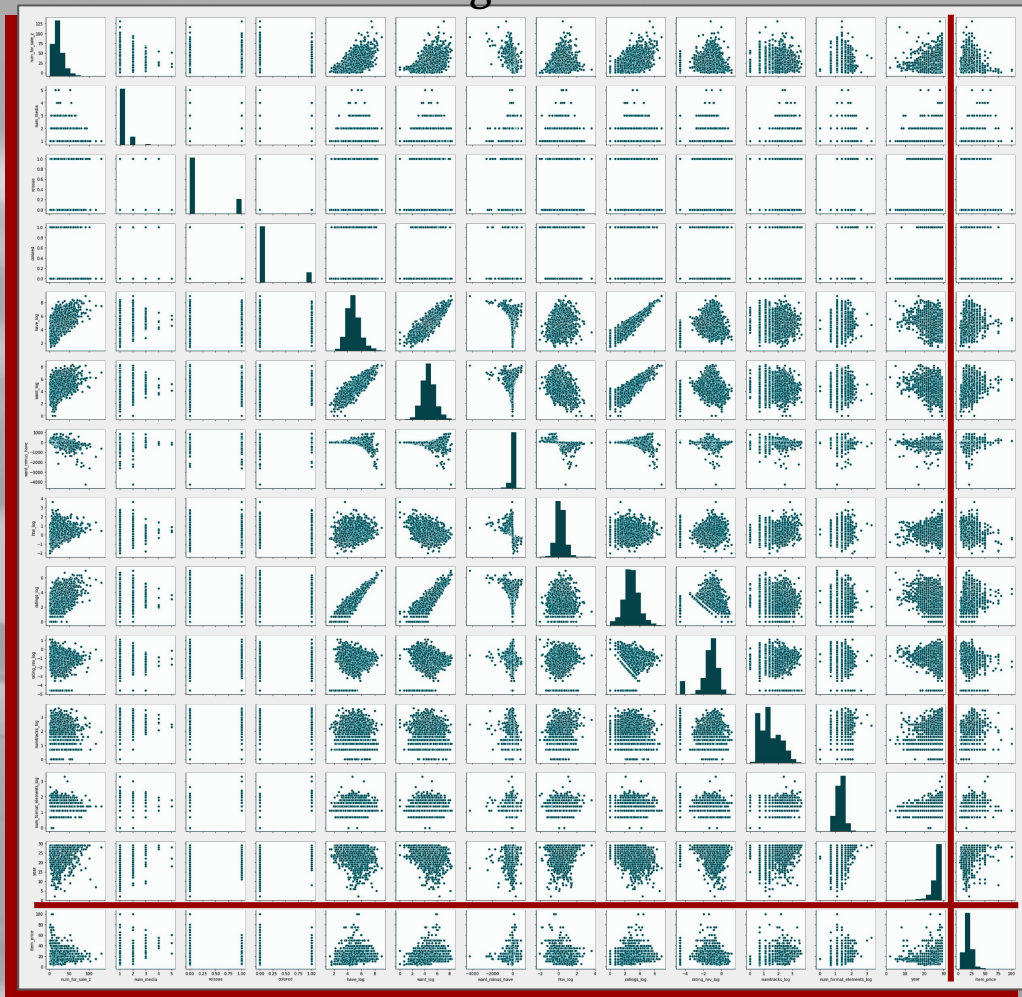
# Selecting a seller



**theslutbunny** (Seattle, WA, USA)

~7,000 listings

# Features Against the Price



# Methodology

- Linear regression
- 5-fold cross-validation
- Regularization...
  - Attempted!



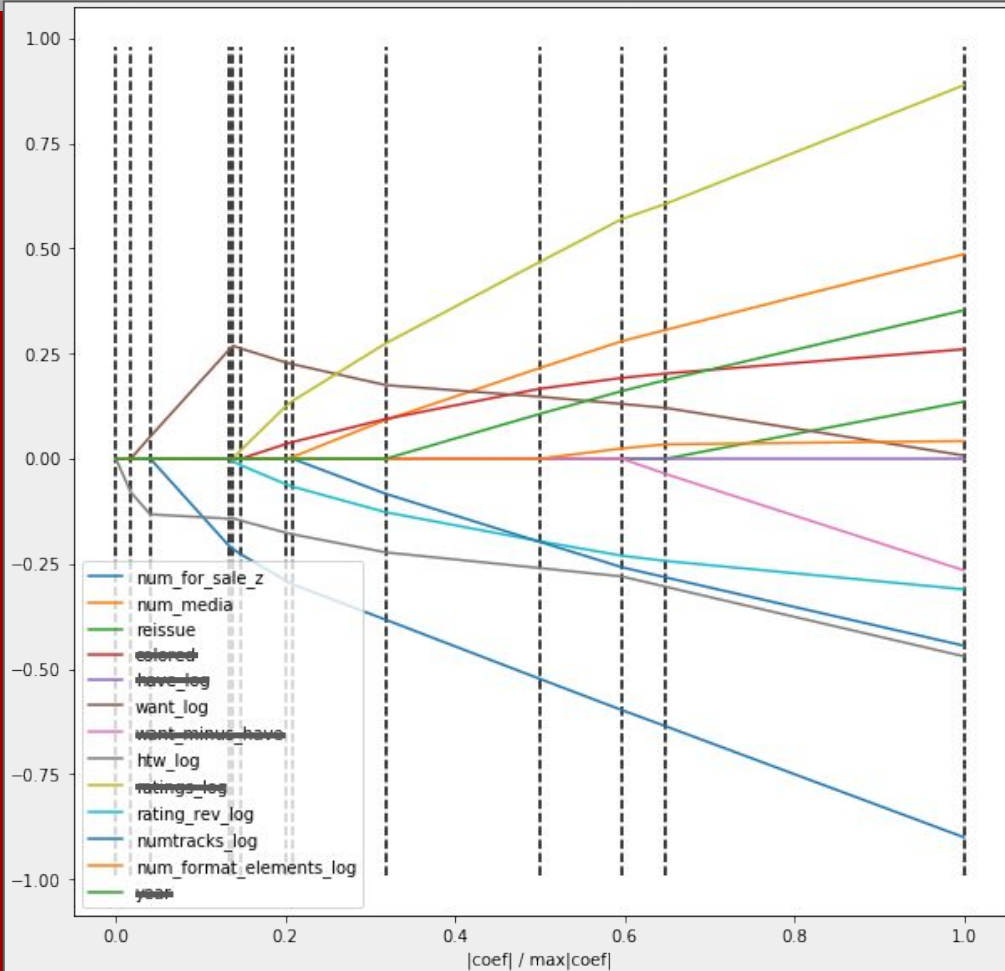
13-feature model

$R^2$  0.462  $\pm$  0.039

$RMSE$  5.283



# LARS von Path





# 8-feature model

$R^2$  0.439  $\pm$  0.039  
-0.023

$RMSE$  5.392  
+0.109

# What about other sellers?

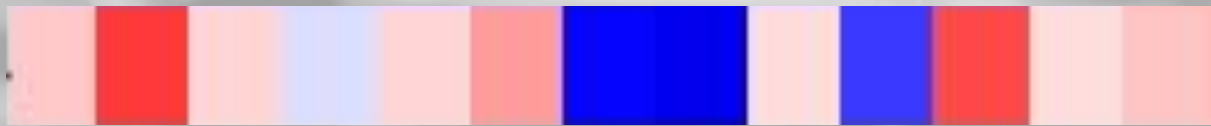


**All Day Records (North Carolina, USA)**



**Wolvie Records (Bretagne, France)**

All Day



Wolvie



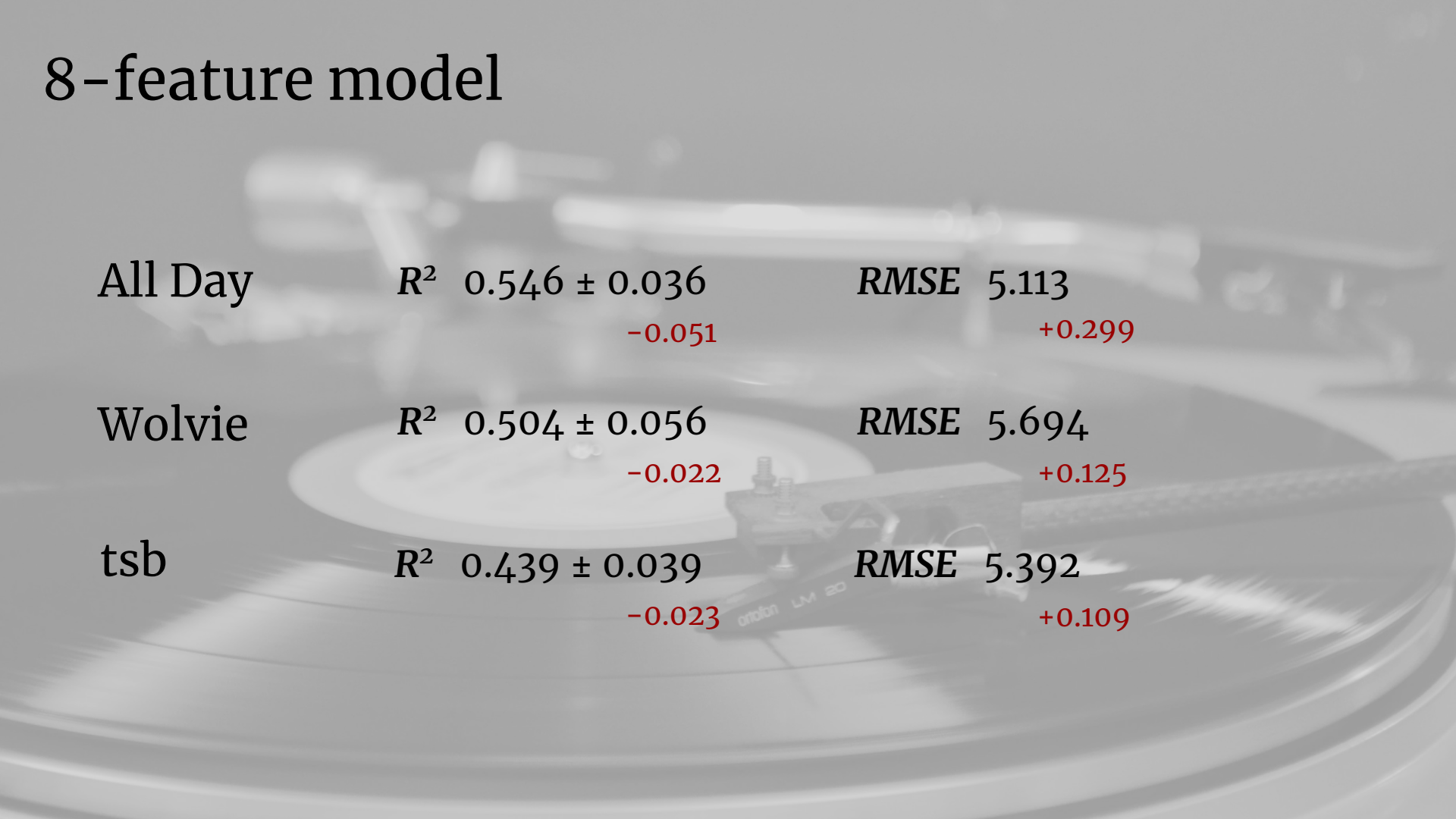
# 13-feature model

All Day  $R^2$  0.597  $\pm$  0.038 *RMSE* 4.814

Wolvie  $R^2$  0.526  $\pm$  0.056 *RMSE* 5.569

tsb  $R^2$  0.462  $\pm$  0.039 *RMSE* 5.283

# 8-feature model



All Day	$R^2$ 0.546 $\pm$ 0.036 -0.051	RMSE 5.113 +0.299
Wolvie	$R^2$ 0.504 $\pm$ 0.056 -0.022	RMSE 5.694 +0.125
tsb	$R^2$ 0.439 $\pm$ 0.039 -0.023	RMSE 5.392 +0.109

# Coefficient analysis

for sale count	0.049
media count	5.793
reissue	1.951
colored	0.776
log(have count)	0.178
log(want count)	1.209
want - have	0.0004

have / want	-1.030
log(ratings count)	-0.328
log(5 - rating)	-0.106
log(tracks count)	3.826
log(format elems. count)	2.175
year	0.554

*All Day 13-feature linear model*



# Coefficient analysis

for sale count	0.075
media count	5.827
reissue	1.871
log(want count)	0.615

have / want	-1.916
log(5 - rating)	-0.348
log(tracks count)	3.938
log(format elems. count)	3.632

*All Day 8-feature linear model*

# Takeaways

A grayscale photograph of a vinyl record spinning on a turntable. The record is in motion, creating a blurred effect. A tonearm with a stylus is positioned over the record. The background is dark and out of focus.

- Some sellers are more “linear” than others
  - Drawing info purely from release data
- Maybe missing pertinent information



Photo by [Wei-Cheng Wu](#) on [Unsplash](#)