Luther Project

Mauricio Flores

Sliding scale - gross profits split ($)

	Movie Theater	Studio
Week 1	20%	80%
Week 2	20%	80%
Week 3	30%	70%
Week 4	40%	60%
Week 5	50%	50%

Which movies to play?

Model to estimate:

Opening gross profit per theater
[$ / theater]

Box Office Mojo

Search Site

Search...

Social
Facebook
Twitter

Features
News
Release Sched.
Showtimes
at IMDb

Box Office
Daily
Weekend
Weekly
Monthly
Quarterly
Seasonal
Yearly
All Time
Chart Watch
International

Indices
Movies A-Z
Studios

Adjuster: Actuals

Yearly Box Office

| ALL RELEASES | WIDE RELEASES | LIMITED RELEASES | CALENDAR GROSSES |

2014 DOMESTIC GROSSES

Total Grosses of all Movies Released in 2014

#1–100 - **#101–200** - **#201–300** - **#301–400** - **#401–500** - **#501–600** - **#601–700** - **#701–702**

< Previous Year Data as of: Today or (Month / Day / 2014) Go Next Year >

Rank	Movie Title (click to view)	Studio [Filter]	Total Gross	/ Theaters	Opening	/ Theaters	Open	Close
1	American Sniper	WB	$350,126,372	3,885	$633,456	4	12/25	6/25
2	The Hunger Games: Mockingjay - Part 1	LGF	$337,135,885	4,151	$121,897,634	4,151	11/21	3/19
3	Guardians of the Galaxy	BV	$333,176,600	4,088	$94,320,883	4,080	8/1	1/22
4	Captain America: The Winter Soldier	BV	$259,766,572	3,938	$95,023,721	3,938	4/4	8/21
5	The LEGO Movie	WB	$257,760,692	3,890	$69,050,279	3,775	2/7	9/4
6	The Hobbit: The Battle of the Five Armies	WB (NL)	$255,119,788	3,875	$54,724,334	3,875	12/17	4/2
7	Transformers: Age of Extinction	Par.	$245,439,076	4,233	$100,038,390	4,233	6/27	10/9

317 movies (2012, 2013 and 2014)

- Studios (37)
- Genres (18)
- Ratings (5)
- Run time minutes
- Budget ($)
- Release date (4 seasons)
 - *oscars*
  - *spring*
  - *summer*
  - *bad months*

Opening gross per theater =

b_1 **studio_FoxS** +
b_2 **studio_A24** +
b_3 **studio_BV** +
b_4 **studio_Focus** +
b_5 **studio_Rela** +
b_6 **studio_Fox** +
b_7 **studio_ORF** +
b_8 **Runtime_mins** +
b_9 **Budget** +
b_{10} **genre_Drama** +
b_{11} **rating_R** +
b_{12} **season2_oscars** +
b_{13} **season2_summer**

OLS Regression Results

|			
Dep. Variable:	opening_gross_per_theather	**R-squared:**	0.227
Model:	OLS	**Adj. R-squared:**	0.194
Method:	Least Squares	**F-statistic:**	6.840
Date:	Thu, 28 Apr 2016	**Prob (F-statistic):**	1.46e-11
Time:	16:29:09	**Log-Likelihood:**	-3625.8
No. Observations:	317	**AIC:**	7280.
Df Residuals:	303	**BIC:**	7332.
Df Model:	13		
Covariance Type:	nonrobust		

Residuals Plot
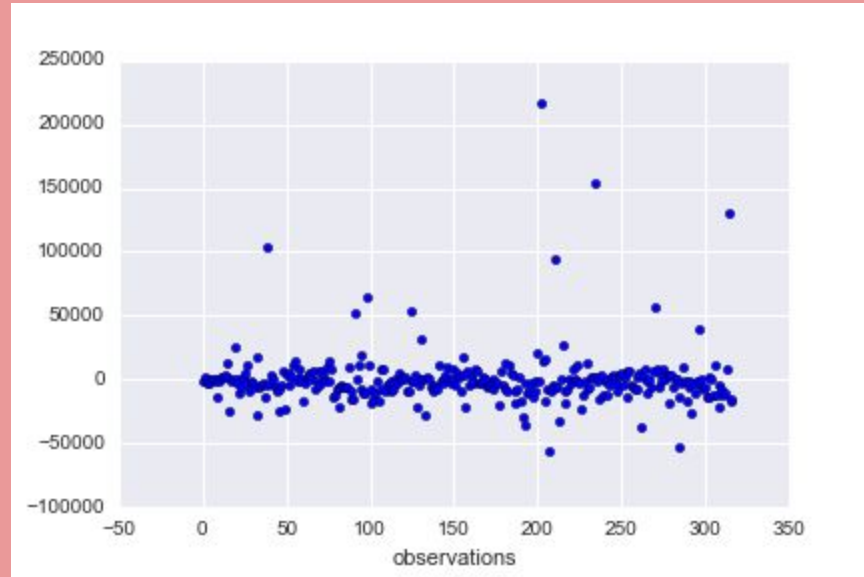
Out Sample data:

- Year 2015
- 104 movies

Model Validation
Opening gross profits per theater
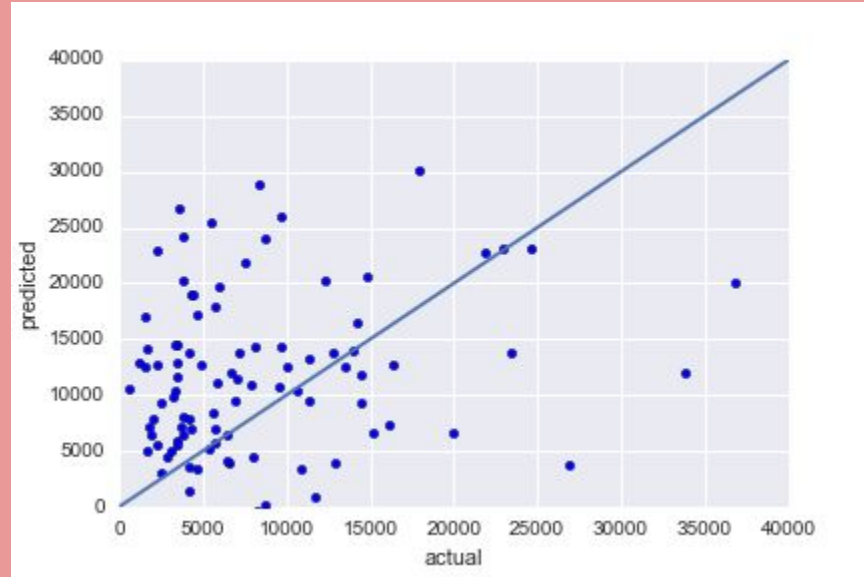
r^2 (coefficient of determination) = 0.11

Root mean squared error = $20,142

Conclusions:
- More domain knowledge to discover variables that might influence opening gross($) and opening theaters (e.g. marketing)
- Test with new available variables(e.g. actor/actresses, director, etc.)
- Test with more historical data (e.g. 10 years)