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# The Effect of Netflix on U.S. Cable TV Subscriptions

By: Luke Lilienthal

# Intro

- ❓ Cable TV began as a way to relay the programs from broadcasting networks in remote areas where signals are hardly reached or not at all.
- ❓ The annual number of Basic Cable Subscriptions in the U.S. is calculated based on the total number of subscriptions to basic cable television. This means any extra channel packages or upgrades are not included in this variable, only the bare minimum subscription.
- ❓ Basic Annual Cable Subscriptions in the U.S. have been declining since 2001, which is the same year Netflix began recording subscribers.
- ❓ The goal of this research is to determine whether Netflix impacted and played a role in the decline of Basic Annual Cable Subscriptions

# Literature + Research

- ❓ On Netflix from the years of 2010 to 2016, “the number of hours of video entertainment consumed has grown by about 700%,” (Patchunka vol. 71 page 279)
- ❓ According to the same study, “about six in ten young adults primarily use streaming services to watch TV. For viewers ages 18-29 years old, 61% watch TV through online streaming services, compared with 31% of that same age group watching via cable or satellite subscriptions. Compare this to the percentages for all adults in the U.S. in which 28% of adults watch TV primarily online via streaming services and 59% watch via traditional cable or satellite subscriptions,” (Patchunka vol. 71 page 279).
- ❓ Netflix subscription cost (currently \$10.99/month) increasing should have a positive impact on the amount of cable subscriptions; however, given that, “the standard Netflix subscription costs roughly 9% of the monthly cable TV subscription and only about \$29 more for a whole years’ worth of Netflix compared with one month of cable, (Chung pg. 14)”, there seems to be no monetary benefit of switching to cable even if the Netflix subscription cost were to increase more.

# Model

- ❑ **Basic Cable Subscriptions = a – Basic Netflix Subscriptions<sub>i</sub> + Basic Cable Subscription Cost<sub>i</sub> – Basic Netflix Subscription cost<sub>i</sub> + Annual U.S. Household Income<sub>i</sub> + e<sub>i</sub>**
- ❑ Basic Netflix subscriptions is the total amount of standard subscriptions on Netflix and should influence the Dependent Variable directly because it is a cable alternative.
- ❑ Basic Cable Subscription cost, which is the dollar amount for a basic cable subscription, no extra packages, or channels.
- ❑ Basic Netflix Subscription cost, which is the dollar amount of the standard Netflix subscription, no upgrades.
- ❑ Annual U.S. Household Income, which is the average household income in the U.S. in dollars.

# Data

Variable	Mean	Standard Deviation	Min	Max
Basic Cable Subscriptions (in millions)	59.43	5.95	49.2	66.9
Basic Netflix Subscriptions (in millions)	25.18	44.93	0	167.09
Basic Cable Subscription Cost (in USD) in year t	42.85	19.84	15.21	75.85
Basic Netflix Subscription Cost (in USD) in year t	4.74	4.29	0	12.99
Annual United States Income Per Household (in USD)	59,546.97	3,151.2	54,581	68,703

$N = 31$

$t =$  a given year from the data set

Given that Netflix did not obtain subscribers until 2001, that is why the Basic Netflix Subscriptions and Basic Netflix Subscription Cost have a minimum of 0 as the data taken for this research was gathered from 1989-2019.

# Regression Results

(Intercept)	-26.94
Basic Cable Subscriptions (in millions)	(-1.98)
Basic Netflix Subscriptions (in millions)	-0.18 (-7.99)*
Basic Cable Subscription Cost (in USD) in year t	0.12 (1.07)
Basic Netflix Subscription Cost (in USD) in year t	-0.15 (-0.29)
Annual United States Income Per Household (in USD)	0.001 (6.28)*
R <sup>2</sup>	0.77
N	31

Note: t-statistics in parentheses

\* denotes significance at the 95% level.

## Continued...

- ❓ I regressed the dependent variable, Annual Cable Subscriptions, on the following independent variables: Annual Netflix Subscriptions, Annual Income per Household, Cost of Netflix Subscription, and Cost for Cable Subscription.
- ❓ There were two independent variables be significant at the 95% level: Annual U.S. Household income and Basic Netflix Subscriptions.
- ❓ Annual U.S. Household Income directly impacts a consumer's choice to purchase goods/services, so given that average income will increase over time, so should Annual Basic Cable Subscriptions.
- ❓ Basic Netflix Subscriptions is an alternative good/service and therefore makes sense that it should negatively impact cable subscriptions when it increases.



# Conclusion

- ❓ Although the regression results did support the original hypothesis, it is worth noting that Netflix is just one of many digital streaming platforms and may not be the industry leader forever. Cable Television has been something that has been around for a long time and doesn't seem to be going away any time soon.
- ❓ Cable TV once used to have exclusive content from main channels such as ESPN, ABC, etc., but now anyone can stream all this content on platforms like Netflix, Disney Plus and many more.
- ❓ For future research I would love to add data from multiple other streaming platforms like previously mentioned to more accurately depict how streaming platforms influenced basic cable subscriptions.
- ❓ In the end, this research was able to explain 77% of the variance in basic cable subscriptions using just Netflix, which leads us to believe that Netflix has certainly had some level of impact on cable subscriptions.

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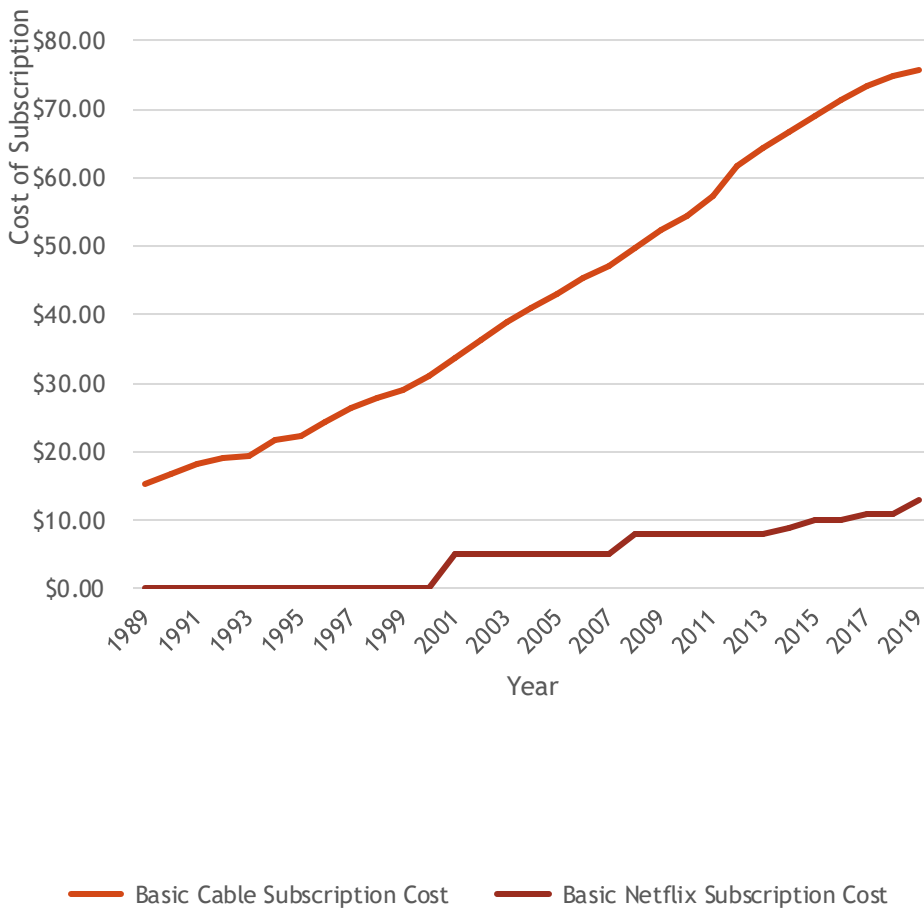
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# Appendix

SUMMARY OUTPUT									
Regression Statistics									
Multiple R		0.87915881							
R Square		0.772920214							
Adjusted R Square		0.737984862							
Standard Error		3.047618778							
Observations		31							
ANOVA									
		df	SS	MS	F	Significance F			
Regression		4	821.9602563	205.49	22.1243	4.71631E-08			
Residual		26	241.4874856	9.28798					
Total		30	1063.447742						
Coefficients									
		Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%	
Intercept		-26.83532054	13.52032638	-1.98481	0.05781	-54.62674943	0.95611	-54.6267	0.95611
Basic Netflix Subscriptions (in millions)		-0.177738634	0.022258666	-7.98514	1.8E-08	-0.223491977	-0.13199	-0.22349	-0.13199
Basic Cable Subscription Cost (in USD) in year t		0.123591341	0.115451536	1.0705	0.29423	-0.113722691	0.36091	-0.11372	0.36091
Basic Netflix Subscription Cost (in USD) in year t		-0.152109729	0.509548624	-0.29852	0.76768	-1.199501925	0.89528	-1.1995	0.89528
Annual United State's Income Per Household (in USD)		0.001447051	0.00023044	6.2795	1.2E-06	0.000973373	0.00192	0.00097	0.00192
RESIDUAL OUTPUT									
Observation		Predicted Basic Cable Subscriptions (in millions)	Residuals						
1		58.54655846	-9.346558459						
2		57.67122647	-5.971226473						
3		55.42647485	-2.026474849						
4		54.92825671	0.271743292						
5		54.5425842	2.657415801						
6		55.73562297	3.964377033						
7		58.32924218	3.770757821						
8		59.76448431	3.735515689						
9		61.73591789	3.164082108						
10		65.06571494	0.334285059						
11		67.38610932	-1.486109316						
12		67.48122805	-0.881228046						
13		64.94822565	1.951774354						
14		64.21320894	1.886791062						
15		64.29921133	1.600788671						
16		64.05403612	1.34596388						
17		64.95424747	0.24575253						
18		65.53469477	-0.134694768						
19		66.76587892	-1.865878923						
20		63.06171563	0.638284374						
21		62.28003808	-0.180038084						
22		57.73899204	2.061007957						
23		57.50040357	0.499596431						
24		57.01290374	-0.61290374						
25		56.58916968	-2.189169678						
26		57.00794496	-3.307944957						
27		55.13979253	-1.839792527						
28		54.81123279	-2.011232794						
29		50.50508693	1.394913068						
30		49.08825043	2.111749566						
31		50.28154608	0.218453919						

# Continued...

Graph 2.  
Average Monthly Cost of Subscription  
(1989-2019)



# Continued...

Graph 3.  
Annual Income Per Household vs. Cable & Netflix Subscriptions  
(1989-2019)

