Computing Customer Equity

What is Customer Equity?

$$CE = \sum_{Retained} CLV_{retained} + \sum_{New} \sum_{t=1}^{T} \frac{CLV_{new}}{(1+d)^t}$$

Retained = # of retained customers in current time period

New = # of new customers in each future time period

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Computing CLV

What is the average value of a retained customer?

$$CLV_{retained} = \sum_{t=1}^{T} \frac{\$M}{(1+d)^t}$$

M = (Rev – Tech) – (Sub + Fulfil)
d = (1+rate)^(1/4) – 1 = 2.41%
r = (#total$_t$ – #new$_t$) / (#total$_{t-1}$)

Turns out we can convert the infinite sum into:

$$\mathrm{CLV}_{\mathrm{retained}} = \$\mathrm{M} * \frac{(1+\mathrm{d})}{(1+\mathrm{d}-\mathrm{r})} = \mathrm{AvgCLV}_{\mathrm{Re\,tained}}$$

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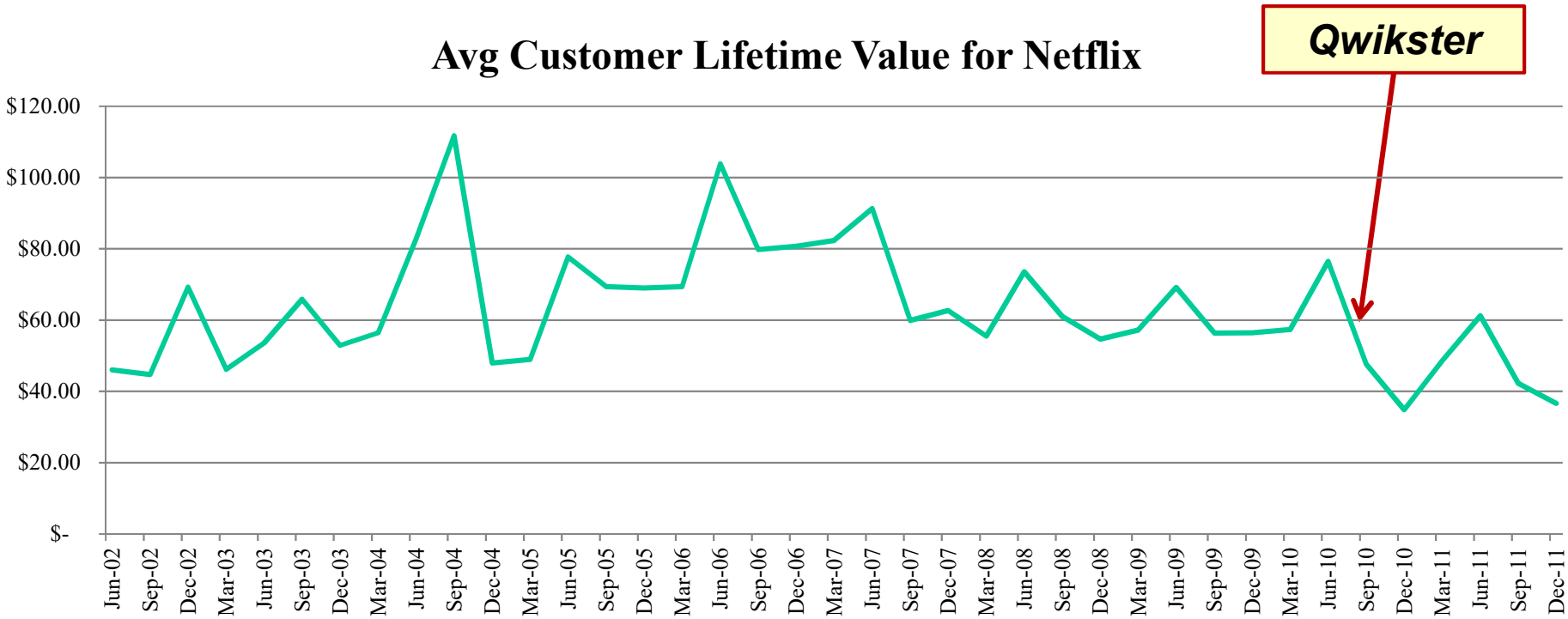
How does CLV vary with time?



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Computing New CLV

What is the average value of a new customer?

$$CLV_{new} = \sum_{t=1}^{T} \left(\frac{CLV_{ret} * GR^{t}}{(1+d)^{t}} \right) - AcqCost$$

M = (GC - Mktg)
d = (discount rate)
GR = (growth rate)

What about all new customers?

$$\sum_{\text{new}} \sum_{t=1}^{T} \frac{CLV_{new}}{(1+d)^{t}} = CLV_{new} * \frac{(1+d)}{(1+d-GrowthRate)} = AvgCLV_{New}$$

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Computing Growth Rate

What if we run a regression?

$$NumNew_t = \beta_0 + \beta_1 NumNew_{t-1} + \varepsilon_t$$

DV = $NumNew_t$	Coefficient (Std. Error)	P-Value
Intercept	98.764 (97.000)	0.315
$NumNew_{t-1}$	1.011 (0.043)	< 0.0001
R-square = 0.930		

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Netflix - Computing CE

How do we bring it together?

$$CE = \left[AvgCLV_{Retained} * N_{Retained}\right] + \left[AvgCLV_{New} * N_{New}\right]$$

Do this for each time period.

CE vs. Market Cap

Are they related?

What if we run a regression?

$$MC_t = \beta_0 + \beta_1 CE_t + \varepsilon_t$$

DV = Market Cap	Coefficient (Std. Error)	P-Value
Intercept	-1,177,121.40 (402,588.40)	0.006
Customer Equity	0.442 (0.037)	< 0.0001
	R-square = 0.84	

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CE vs. Market Cap

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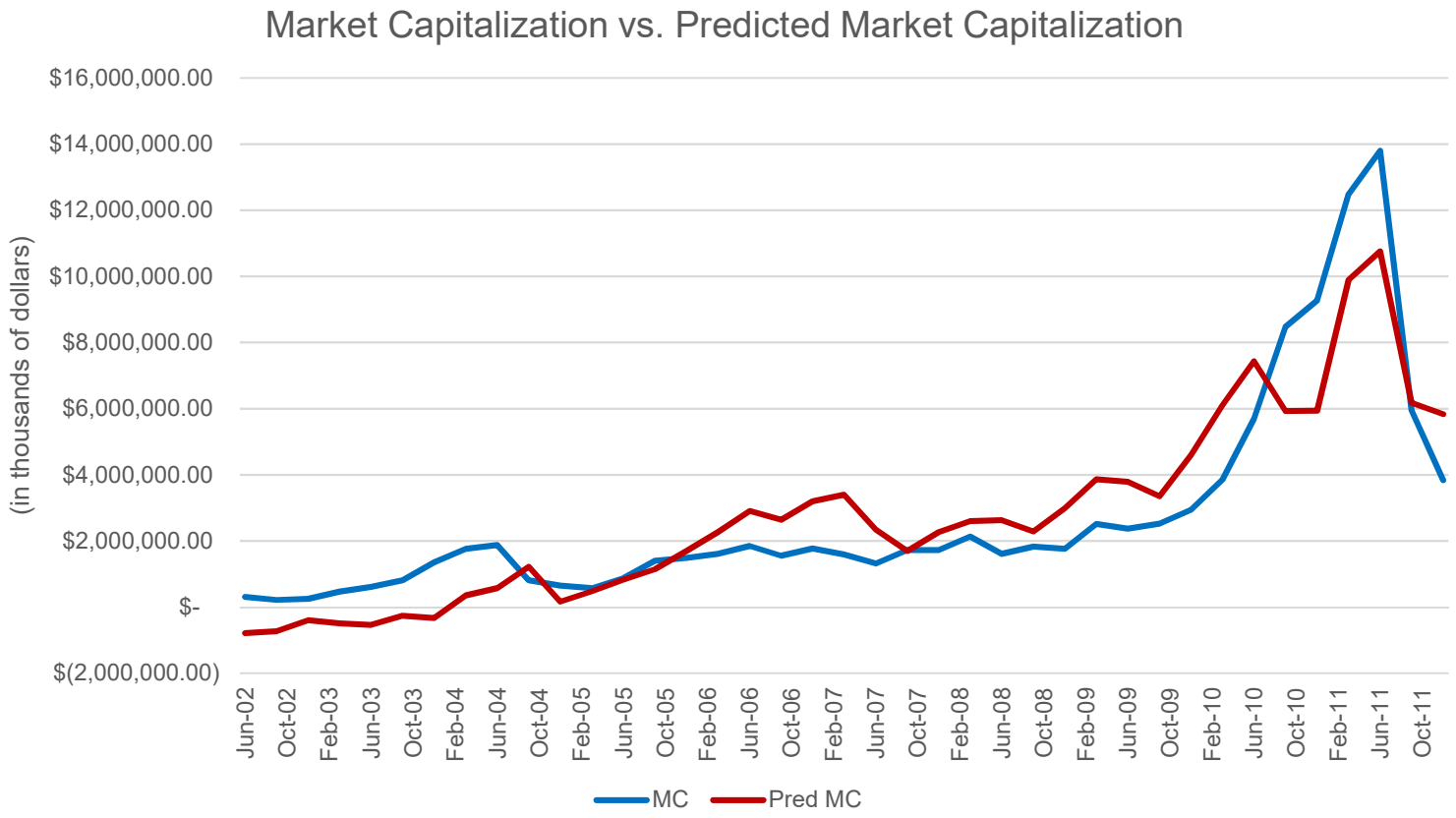
Predicted MC vs. Actual MC



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