

Why Peer to Peer Lending Will Replace American Banking

By Simon Cunningham | Editor, LendingMemo.com | February 26, 2014

Note: This paper was originally published alongside the post 'Why Wells Fargo is Terrified of Peer to Peer Lending'. The original post is published in full on LendingMemo.com:

<http://www.lendingmemo.com/wells-fargo-peer-to-peer-lending/>

Introduction:

Much has been written about how peer to peer lending cuts out traditional banking, offering lower rates on loans by simply connecting people to people over the internet. The massive growth of this industry (177% in 2013) gives additional credence to this claim. However, there has never been an actual hard study of the numbers.

In the following paper, we will compare one of the largest banks in the world, Wells Fargo, with the largest peer to peer lender, Lending Club.

Anytime a tech-based startup has cut out an industry incumbent, it was with its dramatically better *efficiency*. In this way, we will hold Wells Fargo and Lending Club side-by-side and highlight the efficiency of each, measured through each company's **operating expense ratio**. While Wells Fargo is many times larger than Lending Club, a dramatically higher inefficiency would be an indication that it is at risk of being disintermediated, that it is at risk of being too expensive and archaic to any longer be competitive.

$$\text{Operating expense ratio} = \frac{\text{Annual operating costs}}{\text{Value of outstanding loans}}$$

Part I: The Efficiency of Wells Fargo

Rather than examining Wells Fargo as a whole, we will focus today purely on their Community Banking program, the arm of their company that most corresponds to the personal loans currently offered by Lending Club. We can find the cost of this program through the [quarterly supplements](#) they release each three months. On page fourteen of their latest statement we find the following information (Q4 of 2013):

Noninterest expense: \$7,073M

Avg loans, net: \$502.5B

Community Banking

(\$ in millions)	4Q13	vs 3Q13	vs 4Q12
Net interest income	\$ 7,225	- %	1
Noninterest income	5,029	1	(24)
Provision for credit losses	490	n.m.	(72)
Noninterest expense	7,073	-	(12)
Income tax expense	1,373	(9)	50
Segment net income	\$ 3,222	(4) %	12
(\$ in billions)			
Avg loans, net	\$ 502.5	1	2
Avg core deposits	620.2	-	2

The above two numbers are Wells Fargo's quarterly cost and value of outstanding loans. To determine their operating expense ratio, we annualize this cost: $\$7,073M * 4 = \$28,292M$. Dividing this cost by their total value of outstanding loans reveals the bank's operating expense ratio for their last reported quarter:

$$\frac{\$28,292M}{\$502,500M} = 0.0563 \text{ or } 5.63\%$$

Here is Wells Fargo's operating expense ratio for the past three years:

Wells Fargo	Non-Interest Expense \$M	Non-Interest Expense Annualized \$M	Average Loans, net \$M	Operating Expense Ratio
2011Q1	\$7,605	\$30,420	\$510,000	5.96%
2011Q2	\$7,418	\$29,672	\$498,000	5.96%
2011Q3	\$6,901	\$27,604	\$491,000	5.62%
2011Q4	\$7,310	\$29,240	\$493,900	5.92%
2012Q1	\$7,825	\$31,300	\$486,100	6.44%
2012Q2	\$7,580	\$30,320	\$483,900	6.27%
2012Q3	\$7,402	\$29,608	\$485,300	6.10%
2012Q4	\$8,033	\$32,132	\$493,100	6.52%
2013Q1	\$7,377	\$29,508	\$498,900	5.91%
2013Q2	\$7,213	\$28,852	\$498,200	5.79%
2013Q3	\$7,060	\$28,240	\$497,700	5.67%
2013Q4	\$7,073	\$28,292	\$502,500	5.63%

In essence, for a peer to peer lender to make the claim that they are more efficient than an American bank like Wells Fargo, they must have an operating expense ratio *lower* than 5.6%.

Part II: The Efficiency of Lending Club

Calculating Lending Club's operating expense ratio is more complicated. Since the company is growing so quickly, its current issued loans are not in equilibrium with the loans it continues to service, so its operating expenses need to be matched with what their current outstanding loan value would be if they continued each quarterly performance into perpetuity.

Let's begin by discovering the numerator: Lending Club's current operating expenses. These can be found on page 3 of the [10-Q forms](#) they file with the Securities and Exchange Commission, line item "Total Operating Expenses" seen on the right (latest filing is Q3 of 2013):

Operating Expenses:	
Sales and marketing	(10,460)
Origination and servicing	(4,996)
General and administrative	(9,331)
Total Operating Expenses	(24,787)

Similarly to Wells Fargo, we must annualize this quarter to discover Lending Club's annual expenses:

$$\$24,787,000 * 4 = \$99,148,000$$

The other end of the equation, the denominator, is the total value of its outstanding loans. Finding this is a bit more complicated. We need to find the total value of the loans they issued for this quarter in these same SEC forms and annualize it. Find this amount in the **Revenues – Results of Operations** section (pg. 22):

“Our business model consists primarily of charging fees to borrower members, investor members and unrelated third party purchasers for transactions through or related to our platform. During the three months ended September 30, 2013 and 2012, we facilitated and acquired **\$567.1** million and \$207.2 million of loans, respectively, via our platform.” *[emphasis mine]*

So, for the third quarter of 2013, Lending Club issued a total of \$567.1 million in new loans. Annualized:

$$\$567.1 \text{ million} * 4 = \$2268.4 \text{ million (avg. of } \$189.03\text{M per month)}$$

We now need to calculate the run-rate on this volume of issued loans as if it were issued each year into perpetuity. To do this, we need to isolate what percentage of this quarter were 3-year loans and what percentage were 5-year loans (for the third quarter of 2013 it was 73% 3-year loans & 27% 5-year). We then create a waterfall of each month's payments to discover when equilibrium is reached between the monthly issued loans and the total value of loans outstanding.

Here is the waterfall for Lending Club's last reported quarter: \$189M avg. issuance/month with 73% 3-year loans (2013 Q3):

Outstanding Balance Waterfall												
Period	Outstandings	Month 1		Month 2		Month 3		Month 4		Month 5		36 Mo
		36 Month	60 Month	36 Month	60 Month	36 Month	60 Month	36 Month	60 Month	36 Month	60 Month	
Month 0	\$51.0	\$138.0	\$51.0									
Month 1	\$374.4	\$134.9	\$50.5	\$138.0	\$51.0							
Month 2	\$556.1	\$131.9	\$49.9	\$134.9	\$50.5	\$138.0	\$51.0					
Month 3	\$734.1	\$128.7	\$49.3	\$131.9	\$49.9	\$134.9	\$50.5	\$138.0	\$51.0			
Month 4	\$908.7	\$125.8	\$48.8	\$128.7	\$49.3	\$131.9	\$49.9	\$134.9	\$50.5	\$138.0	\$51.0	
Month 5	\$1,079.7	\$122.8	\$48.2	\$125.8	\$48.8	\$128.7	\$49.3	\$131.9	\$49.9	\$134.9	\$50.5	\$138.0
Month 6	\$1,247.1	\$119.7	\$47.7	\$122.8	\$48.2	\$125.8	\$48.8	\$128.7	\$49.3	\$131.9	\$49.9	\$134.9
Month 7	\$1,410.7	\$116.5	\$47.1	\$119.7	\$47.7	\$122.8	\$48.2	\$125.8	\$48.8	\$128.7	\$49.3	\$131.9
Month 8	\$1,570.6	\$113.4	\$46.5	\$116.5	\$47.1	\$119.7	\$47.7	\$122.8	\$48.2	\$125.8	\$48.8	\$131.9
Month 9	\$1,726.7	\$110.1	\$46.0	\$113.4	\$46.5	\$116.5	\$47.1	\$119.7	\$47.7	\$122.8	\$48.2	\$131.9
Month 10	\$1,879.0	\$106.9	\$45.4	\$110.1	\$46.0	\$113.4	\$46.5	\$116.5	\$47.1	\$119.7	\$47.7	\$131.9
Month 11	\$2,027.4	\$103.5	\$44.9	\$106.9	\$45.4	\$110.1	\$46.0	\$113.4	\$46.5	\$116.5	\$47.1	\$131.9
Month 12	\$2,171.9	\$100.2	\$44.3	\$103.5	\$44.9	\$106.9	\$45.4	\$110.1	\$46.0	\$113.4	\$46.5	\$131.9
Month 13	\$2,312.4	\$96.8	\$43.7	\$100.2	\$44.3	\$103.5	\$44.9	\$106.9	\$45.4	\$110.1	\$46.0	\$131.9
Month 14	\$2,448.8	\$93.3	\$43.1	\$96.8	\$43.7	\$100.2	\$44.3	\$103.5	\$44.9	\$106.9	\$45.4	\$131.9
Month 15	\$2,581.2	\$90.0	\$42.4	\$93.3	\$43.1	\$96.8	\$43.7	\$100.2	\$44.3	\$103.5	\$44.9	\$131.9
Month 16	\$2,709.5	\$86.6	\$41.8	\$90.0	\$42.4	\$93.3	\$43.1	\$96.8	\$43.7	\$100.2	\$44.3	\$131.9
Month 17	\$2,833.8	\$83.1	\$41.1	\$86.6	\$41.8	\$90.0	\$42.4	\$93.3	\$43.1	\$96.8	\$43.7	\$131.9
Month 18	\$2,953.9	\$79.6	\$40.5	\$83.1	\$41.1	\$86.6	\$41.8	\$90.0	\$42.4	\$93.3	\$43.1	\$131.9
Month 48	\$4,563.5		\$15.2	\$0.0	\$16.2	\$0.0	\$17.2	\$0.0	\$18.2	\$0.0	\$19.2	
Month 49	\$4,577.6		\$14.1	\$0.0	\$15.2	\$0.0	\$16.2	\$0.0	\$17.2	\$0.0	\$18.2	
Month 50	\$4,590.7		\$13.1	\$0.0	\$14.1	\$0.0	\$15.2	\$0.0	\$16.2	\$0.0	\$17.2	
Month 51	\$4,602.6		\$12.0	\$0.0	\$13.1	\$0.0	\$14.1	\$0.0	\$15.2	\$0.0	\$16.2	
Month 52	\$4,613.5		\$10.9	\$0.0	\$12.0	\$0.0	\$13.1	\$0.0	\$14.1	\$0.0	\$15.2	
Month 53	\$4,623.4		\$9.8	\$0.0	\$10.9	\$0.0	\$12.0	\$0.0	\$13.1	\$0.0	\$14.1	
Month 54	\$4,632.0		\$8.7	\$0.0	\$9.8	\$0.0	\$10.9	\$0.0	\$12.0	\$0.0	\$13.1	
Month 55	\$4,639.6		\$7.6	\$0.0	\$8.7	\$0.0	\$9.8	\$0.0	\$10.9	\$0.0	\$12.0	
Month 56	\$4,646.0		\$6.4	\$0.0	\$7.6	\$0.0	\$8.7	\$0.0	\$9.8	\$0.0	\$10.9	
Month 57	\$4,651.3		\$5.3	\$0.0	\$6.4	\$0.0	\$7.6	\$0.0	\$8.7	\$0.0	\$9.8	
Month 58	\$4,655.4		\$4.1	\$0.0	\$5.3	\$0.0	\$6.4	\$0.0	\$7.6	\$0.0	\$8.7	
Month 59	\$4,658.4		\$2.9	\$0.0	\$4.1	\$0.0	\$5.3	\$0.0	\$6.4	\$0.0	\$7.6	
Month 60	\$4,658.4		\$0.0	\$0.0	\$2.9	\$0.0	\$4.1	\$0.0	\$5.3	\$0.0	\$6.4	
Month 61	\$4,658.4			\$0.0	\$0.0	\$0.0	\$2.9	\$0.0	\$4.1	\$0.0	\$5.3	

The waterfall reveals the outstanding loans hit equilibrium with issuance on month 59 with a multiple of about 2.1 times that quarter's issued loans (annualized).

$$\frac{\text{Peak outstanding } (\$4658.4M)}{\text{Annualized issuance } (\$2268.4M)} = \text{Run rate multiplier } (2.1)$$

This multiplier is different depending on what portion of that quarter's loans were 3-year/36-month loans. Quarters where more 3-year loans are issued will have a smaller multiplier; those with more 5-year loans will have a larger multiplier.

With the multiplier for Lending Club's last reported quarter, we can return to projecting its total value of outstanding loans for this quarter's issuance:

*Annualized originations (\$2268.4M) * Run rate multiplier (2.1) = Pro forma loans outstanding (\$4,763.6M)*

Finally, we can calculate the operating expense ratio for Lending Club's last reported quarter:

$$\frac{\text{Annualized operating cost } (\$99,148,000)}{\text{Pro forma loans outstanding } (\$4,763,600,000)} = 0.0208 \text{ or } 2.08\%$$

Here is the operating expense ratio for every quarter that Lending Club has filed 10-Q forms with the SEC in the past three years:

Lending Club	Q Operating Expenses \$Th	Annualized Expenses \$Th	Loan Originations \$Th	Originations Annualized \$Th	36-month %	Run Rate Multiplier	Pro Forma Loans Outstanding \$Th	Operating Expense Ratio
2011Q1								
2011Q2	\$5,892	\$23,568	\$56,063	\$224,252	62%	2.2	\$493,354.40	4.78%
2011Q3	\$6,750	\$27,000	\$68,528	\$274,112	67%	2.1	\$575,635.20	4.69%
2011Q4	\$7,260	\$29,040	\$86,864	\$347,456	66%	2.1	\$729,657.60	3.98%
2012Q1								
2012Q2	\$9,188	\$36,752	\$137,366	\$549,464	81%	2	\$1,098,928	3.34%
2012Q3	\$10,779	\$43,116	\$215,378	\$861,512	83%	1.9	\$1,636,872.80	2.63%
2012Q4								
2013Q1	\$16,211	\$64,844	\$352,900	\$1,411,600	79%	2	\$2,823,200	2.30%
2013Q2	\$19,057	\$76,228	\$446,200	\$1,784,800	75%	2	\$3,569,600	2.14%
2013Q3	\$24,787	\$99,148	\$567,100	\$2,268,400	73%	2.1	\$4,763,640	2.08%

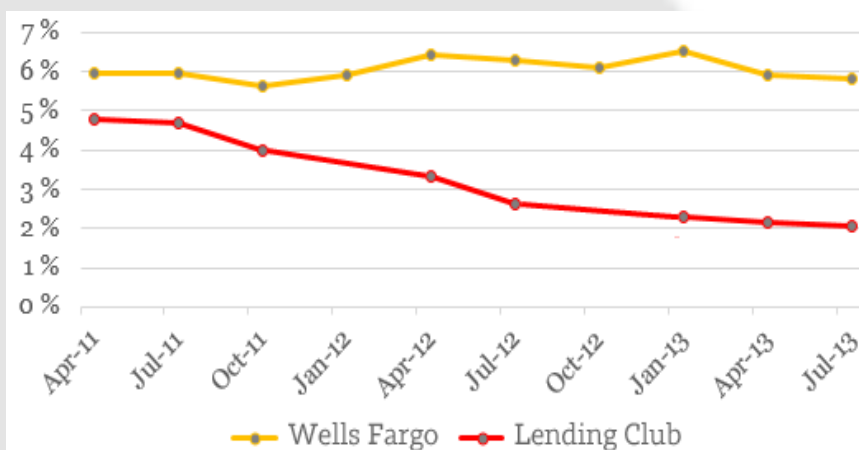
You can see that their operating expense ratio is trending lower each season. Not a single quarter faltered from a slow deliberate refinement of bringing down their cost of doing business.

Part III: The Efficiency of Wells Fargo vs. Lending Club

We can now hold the two companies side by side and see how the efficiency of each has performed over the past three years:

Wells Fargo vs. Lending Club:
Efficiency (Operating Expense Ratio) for 2011-2013

	Wells Fargo	Lending Club
2011Q1	5.96%	
2011Q2	5.96%	4.78%
2011Q3	5.62%	4.69%
2011Q4	5.92%	3.98%
2012Q1	6.44%	
2012Q2	6.27%	3.34%
2012Q3	6.10%	2.63%
2012Q4	6.52%	
2013Q1	5.91%	2.30%
2013Q2	5.79%	2.14%
2013Q3	5.67%	2.08%
2013Q4	5.63%	



Conclusion:

Looking purely at the numbers, Lending Club does business around 270% more efficiently than the comparable branch of a major American bank (Wells Fargo's Community Banking program).

This success proves that peer to peer lending is on track to marginalize the current banking institutions, arguably the greatest economic power on earth. Their dramatic efficiency is further improving with each quarter they do business. As online lending's array of products enlarges beyond personal loans to include things like small business lending and credit cards, it is likely this efficiency will be carried over into these additional products, further marginalizing current industry leaders. It is a strong possibility that, by the mid 21st century, low-cost financial servicers like Lending Club will be the center of national and global finance.