

WHAT TUBMAN CAN TEACH US ABOUT BANKING

by [Steve Brown](#)

Consider the brilliance of Harriet Tubman, the leader of the Underground Railroad. She personally led 19 groups of runaway slaves on a 650+ mile journey from Maryland to Canada without getting caught - a perfect record. She freed 300+ slaves herself and helped thousands more with her tactics. She accomplished all this with a \$40k (\$1mm in today's dollars) bounty on her head and hundreds of people trying to stop her. In addition to being smart, tough and having great leadership abilities, she also knew the territory, varied her route, moved at night and employed a series of spies to deliver good intelligence. Another tactic was to have slaves watch their master's movements for 10 days before deciding on the best time to leave undetected. Without knowing it, Tubman utilized a little known branch of discrete calculus that optimized her slaverunner's chances of getting free. The same calculus that Tubman employed can help bankers optimize their endeavors. The question is this - how much of the market do you sample before taking action? The question is a practical one as you see a stream of loans, potential branch sites, potential employees, a new geographic market, a new product vendor or a series of customers that you may want, but you want to make sure you get the best one. For example, let's say you have a picky CCO and she is looking for the best loans. Let's say there are 3 loans currently in the market that fit your parameters, but you can book only one. The best strategy, of course, is to look at the entire universe of all 3 options (6 different combinations) and then pick the best one. However, the ability to see the entire universe of choices rarely avails itself and so you usually see one opportunity at a time. A simple strategy is to originate the first loan presented. Based on pure probability, you have a 33% chance of getting the best loan - not bad, but not great. A better strategy would be to always reject the first opportunity, no matter how good it looks. Let's say it's a loan with a 12% risk-adjusted ROE. After rejecting the first, take the next best loan or opportunity. In our example, you see a 9% risk-adjusted loan and you reject it. Then you see a 14% ROE loan and you take it. This strategy would increase your odds of getting the best loan from 33% to 50%. If you don't see anything better, then you need to take your last loan and clearly end up with an inferior selection (however the odds are against this happening). To prove the above, calculate the potential possibilities and permutations of 3 loans that are labeled A (best), B and C (worst). After working through the problem with this method, you quickly arrive at the point where the bank would get the best loan in 3 out of the 6 cases, or 50% of the time. This is an optimal outcome outside of being able to see a group of loans at once or getting lucky. The next question that comes up is what happens if you have 10 or 100 opportunities. Fortunately, the same math and strategy that works for 3 options also works for 1,000. Mathematically, you take the estimated size of the number of opportunities (call it "N") and then figure the minimum number of opportunities (which we can call "k") needed to make an informed decision (so that $1/(k+1) + 1/(k+2) + \dots + 1/(N-1) - 1 < 0$). To save you the calculation, the output product factor rounds to about 37%. Thus, if you have 20 opportunities, you pass on the first 37%, or 7, and then take either the next best opportunity or all opportunities better than your best from the first 7 choices. This handy and simple algorithm works universally for any situation where you need to look at a wide number of opportunities, but have a resource constraint, such as time or money. It works for picking out a spouse, a new office location or a set of loans. The more competitive the market is and the less time is on your side (like loans) then the more important to use this methodology so it is more likely you end up below average selection

only about 25% of the time, but above average about 50% of the time (and 25% average). The next time you need to make choices and can't survey the entire market, consider thinking like Tubman and utilizing this watered down version of discrete calculus - it is a handy trick.

BANK NEWS

2Q Earnings

KeyCorp reported profit fell 1.7% as loan loss provisions offset a small 0.5% increase in revenue. Key is working to cut expenses by \$200mm by the end of 2013 and recently added \$2.1B in deposits and \$260mm in loans after acquiring 37 branches owned by HSBC Bank. Fifth Third reported earnings climbed 14%, as it reduced loan loss provisions by nearly 50% from the same quarter last year and net interest income increased.

CFPB Penalty

The CFPB issued the first enforcement action in its history. It ordered Capital One Bank to refund \$140mm to customers, pay a \$35mm fine to the OCC and pay a \$25mm penalty to the CFPB for deceptive call center practices that were designed to sell additional products to credit card customers.

Systemically Important

The Financial Stability Oversight Council named its first group of critical market infrastructure entities that will now be subject to heightened risk management standards under Dodd Frank. The firms named are: The Clearing House Payments Company LLC, CLS Bank International, Chicago Mercantile Exchange Inc., The Depository Trust Company, Fixed Income Clearing Corp., ICE Clear Credit LLC, National Securities Clearing Corp, and The Options Clearing Corp.

Loans

A Pepperdine University study finds 68% of small businesses that will seek financing in the next 6mos say they favor choosing a bank loan vs. 40% that favor credit cards.

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