

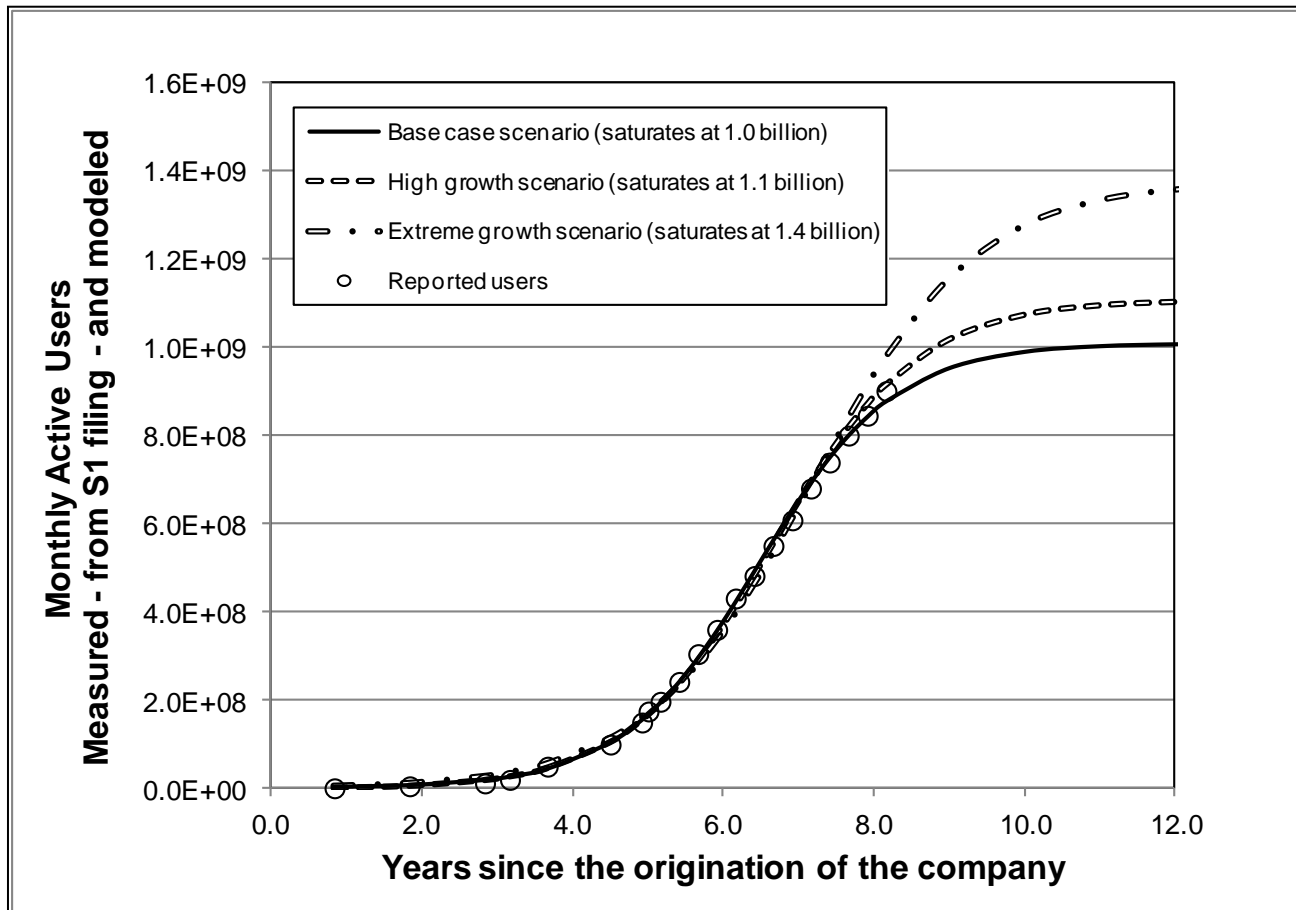
# **Facebook IPO – updated valuation and user forecasting**

Based on:

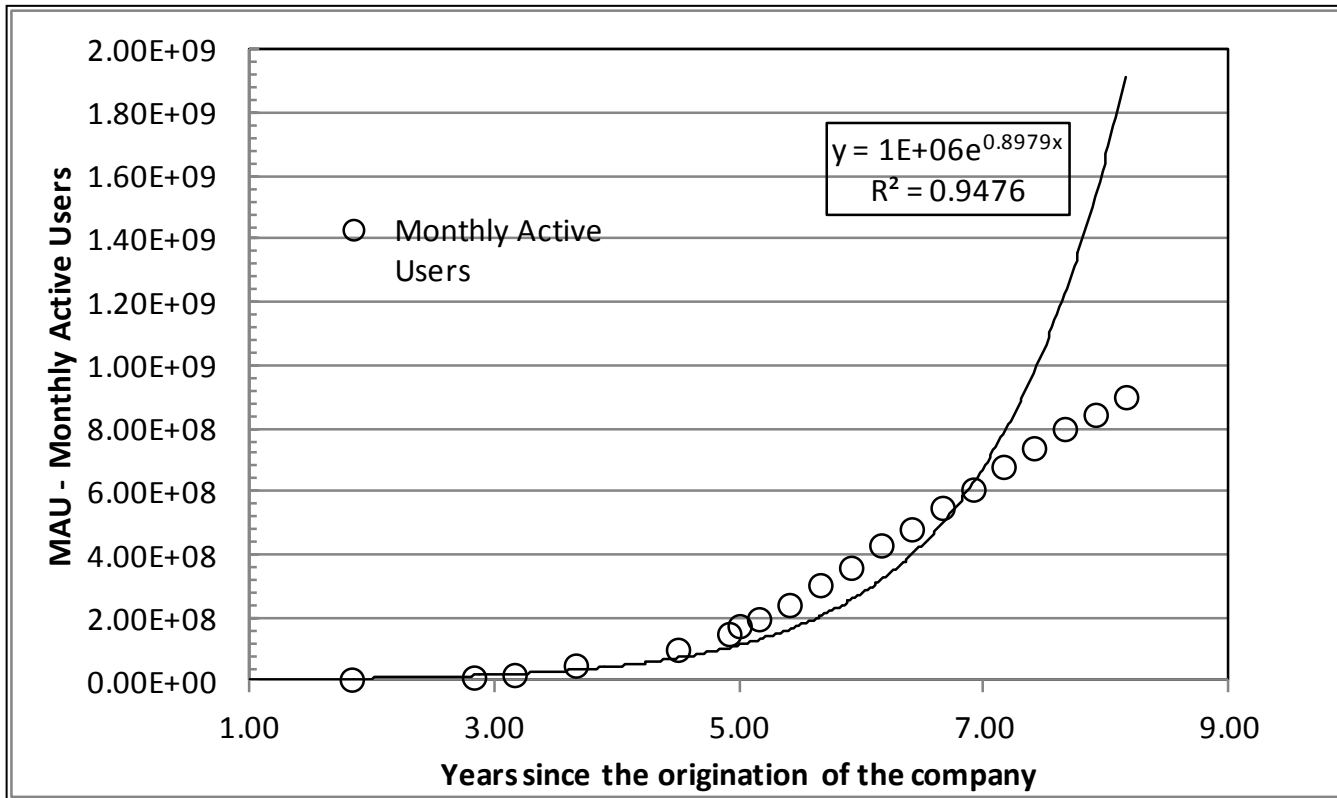
Amendment No. 6 to Form S-1  
(May 9<sup>th</sup>, 2012)

Peter Cauwels and Didier Sornette  
Chair of Entrepreneurial Risk  
ETH Zurich

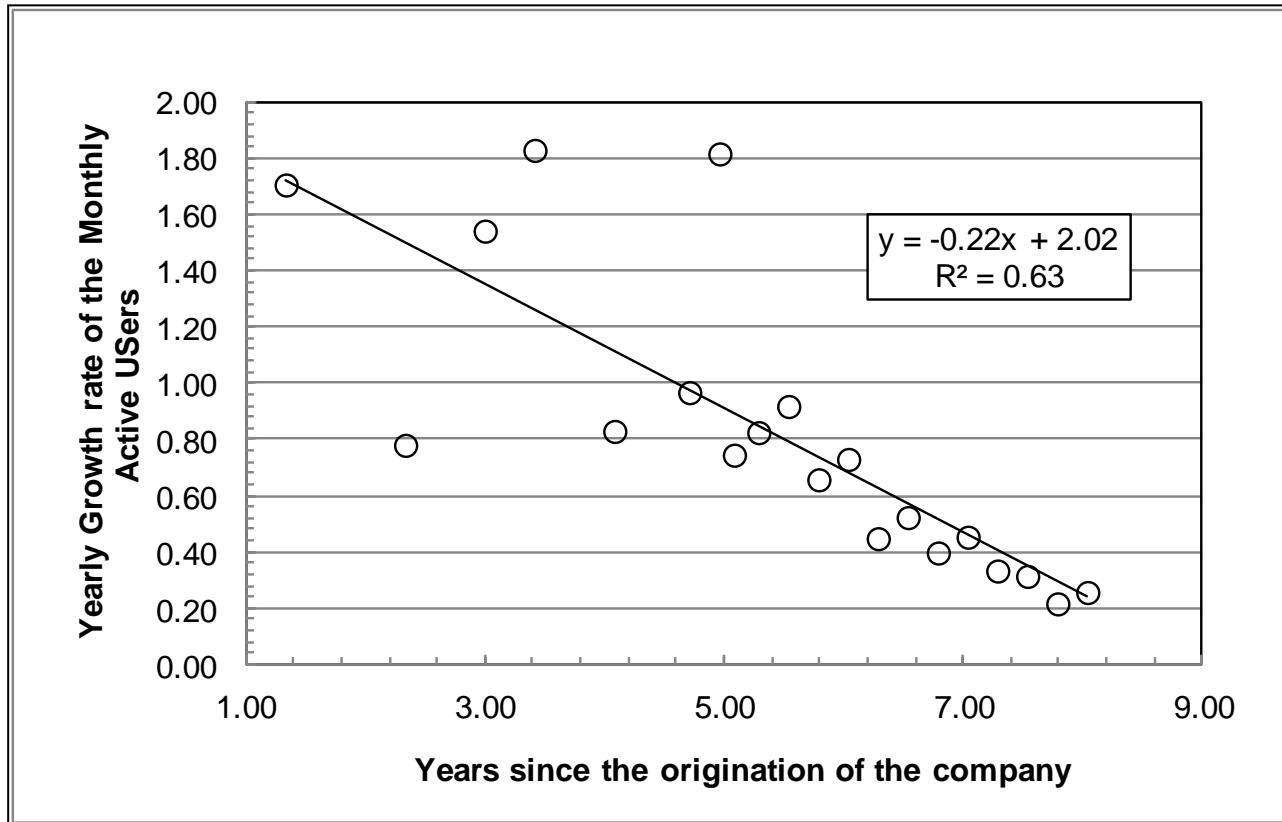
# Forecasting of Monthly Active Users – logistic growth process



# Monthly Active Users do not follow exponential growth process



## Growth Rate of Monthly Active Users



- The yearly growth rate of MAU dropped from 1.8 to 0.2;
- This corresponds to an increase in doubling time of MAU from 0.4 years to 3.5 years;
- If trend continues, growth of MAU will stop at  $y=0$ , this is 9.2 years after the origination of the company, that is in one year, around April 2013.

## Forecasting of Monthly Active Users

Facebook Monthly Active Users (Max Growth - Ceiling / in millions)			
	Base Case	High Growth	Extreme Growth
JPM Paper Cauwels and Sornette	840	1110	1820
S1- filing- May 9 2012	1006	1105	1371

Difference between JPM paper<sup>1</sup> (10/2011) and S1-filing (05/2012)<sup>2</sup> :

- Base Case growth Scenario increases up to +- 1 billion users;
- High Growth Scenario is stable;
- Extreme Growth Scenario decreases substantially.

### Conclusion:

Using the official S1-filing figures, the forecast becomes much more stable, the difference between Base Case and Extreme Growth is less than 40%, compared to more than 100% in the JPM paper.

1. Peter Cauwels and Didier Sornette, *Quis pendit ipsa pretia: facebook valuation and diagnostic of a bubble based on nonlinear demographic dynamics*, *Journal of Portfolio Management* 38 (2), 56-66 (2012)

<http://ssrn.com/abstract=1965431> <http://arxiv.org/abs/1110.1319>

2. <http://www.sec.gov/Archives/edgar/data/1326801/000119312512222368/d287954ds1a.htm>

# Valuation

Facebook Valuation (billion USD)			
	Base Case	High Growth	Extreme Growth
JPM Paper Cauwels and Sornette (1 USD profit/user)	15.3	20.2	32.9
S1- filing (1.2 USD profit/user)	21.6	23.6	29.2

## Conclusion – Valuation in:

- Base Case Scenario: Max. 22 billion USD
- High Growth Scenario: Max. 24 billion USD
- Extreme Growth Scenario: Max. 30 billion USD

The results become more stable using the official S1 filing figures.

1. Peter Cauwels and Didier Sornette, *Quis pendit ipsa pretia: facebook valuation and diagnostic of a bubble based on nonlinear demographic dynamics*, *Journal of Portfolio Management* 38 (2), 56-66 (2012)  
<http://ssrn.com/abstract=1965431> <http://arxiv.org/abs/1110.1319>
2. <http://www.sec.gov/Archives/edgar/data/1326801/000119312512222368/d287954ds1a.htm>