

# Simplistic Financial Computations for System Architects.

by *Gerrit Muller* USN-SE

e-mail: gaudisite@gmail.com

www.gaudisite.nl

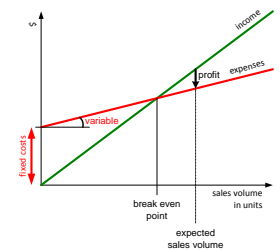
## Abstract

This document explains how simple financial estimates can be made by system architects. These simplistic estimates are useful for an architect to perform sanity checks on proposals and to obtain understanding of the financial impact of proposals. Note that architects will never have full fledged financial controller know how and skills. These estimates are zero order models, but real business decisions will have to be founded on more substantial financial proposals.

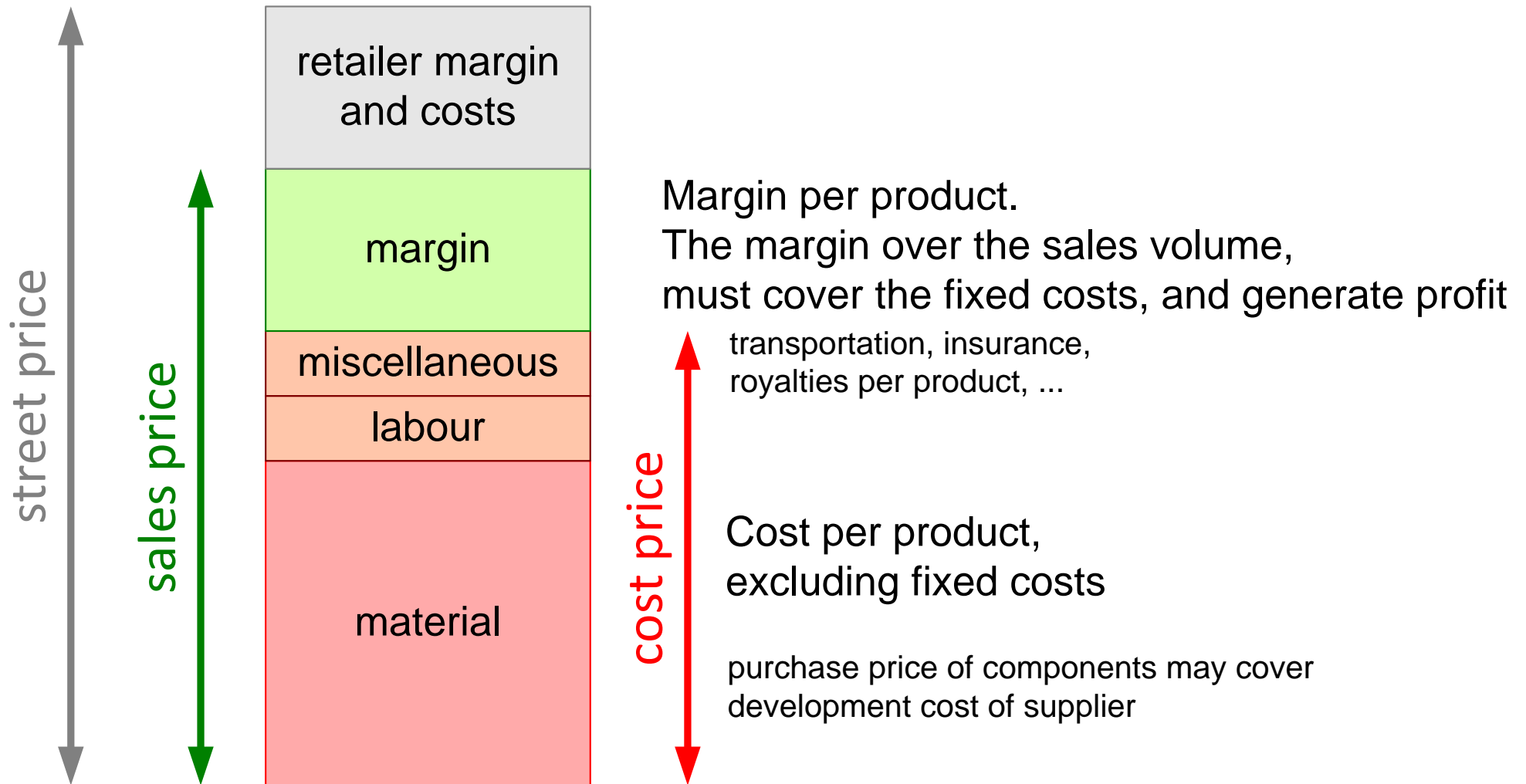
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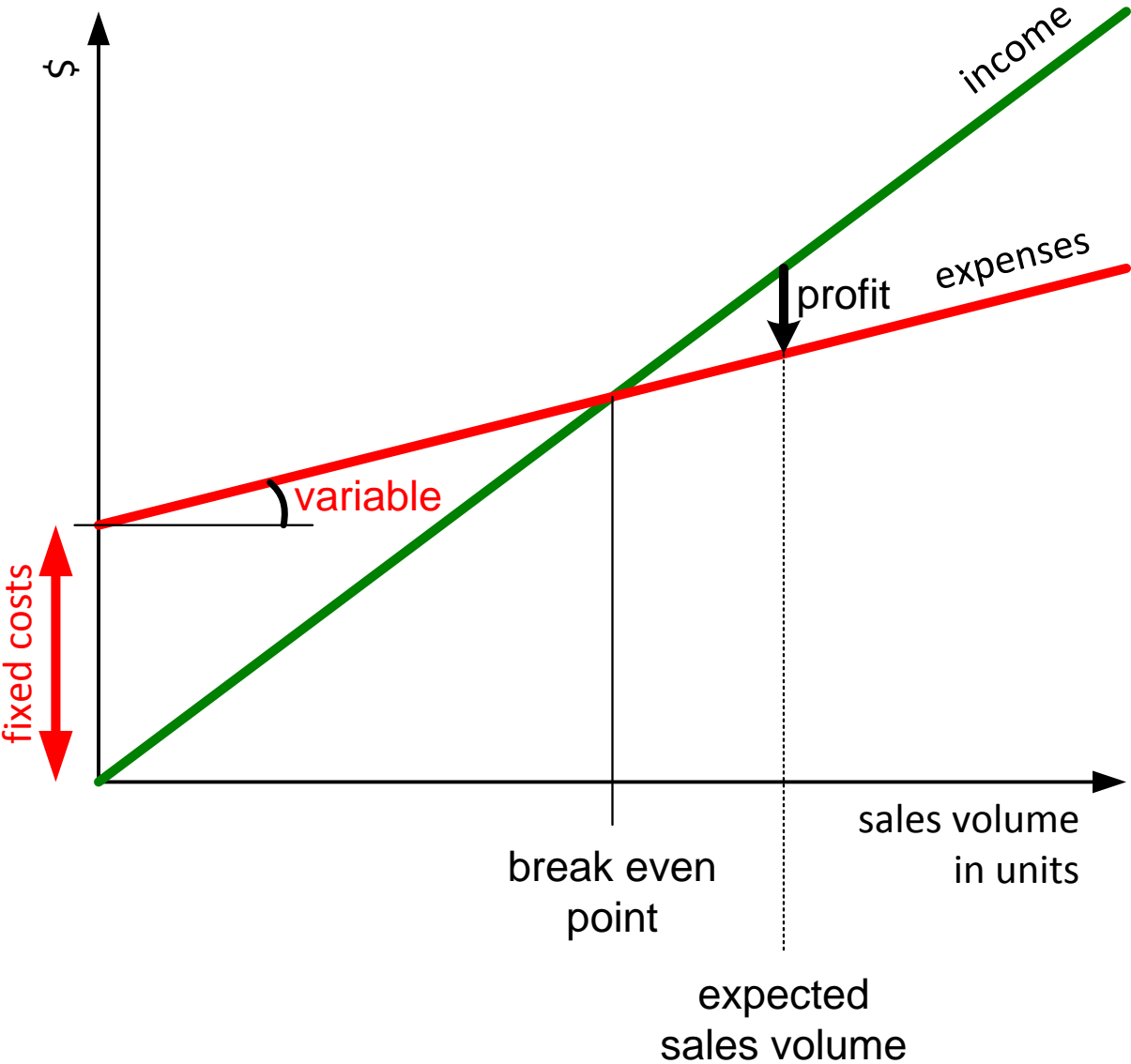
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# Product Margin = Sales Price - Cost



# Profit as function of sales volume



# Investments, more than R&D



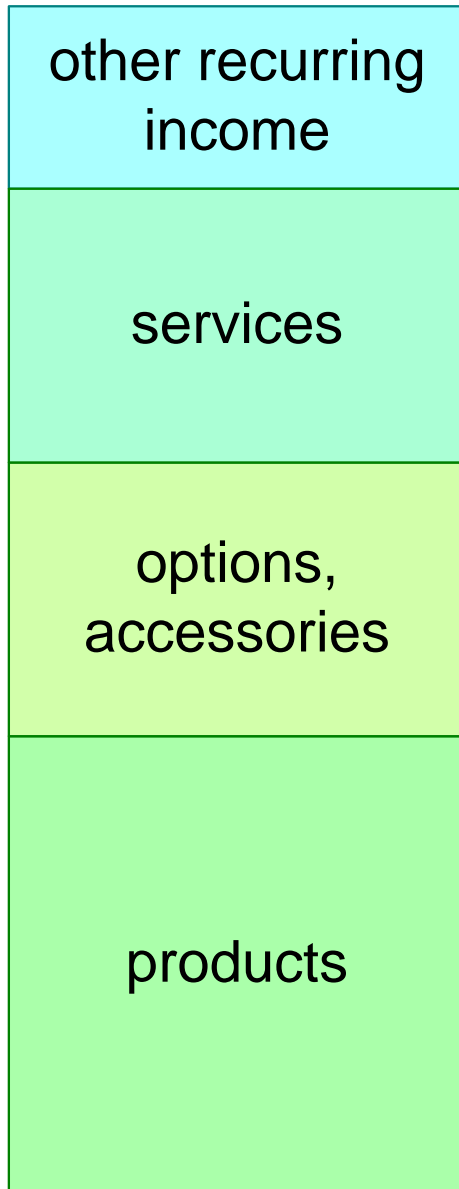
business dependent:  
pharmaceuticals industry  
sales cost >> R&D cost

strategic choice:  
NRE or per product

including:  
staff, training, tools, housing  
materials, prototypes  
overhead  
certification

often a standard staffing rate is used  
that covers most costs above:  
 $R\&D\ investment = Effort * rate$

# Income, more than product sales only



$$\sum_{\text{services}} \text{income}_{\text{service}}$$

$$\sum_{\text{options}} \text{sales price}_{\text{option}} * \text{volume}_{\text{option}}$$

$$\text{sales price}_{\text{product}} * \text{volume}_{\text{product}}$$

license fees  
pay per movie

content, portal  
updates  
maintenance

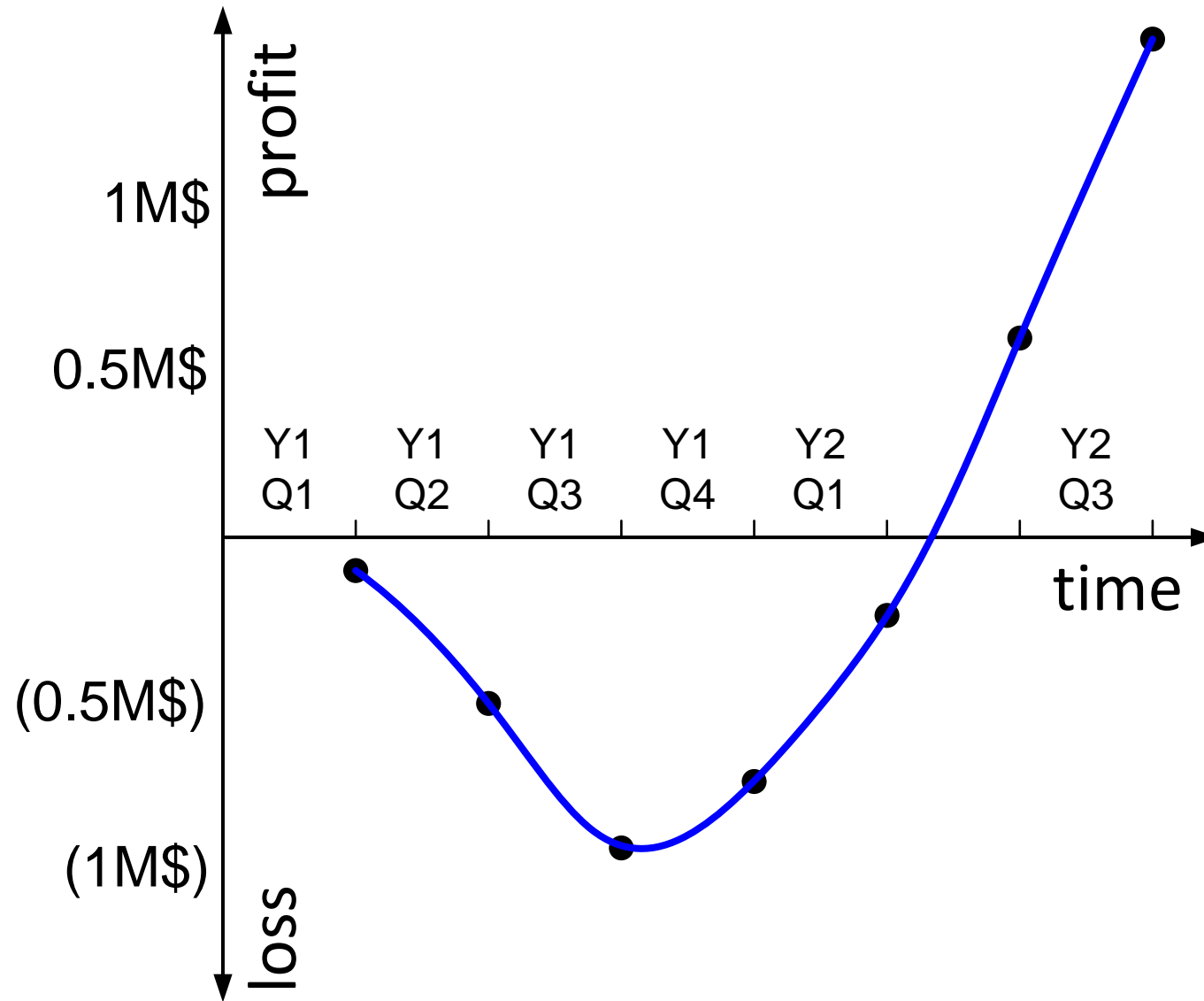
# The Time Dimension

	Y1 Q1	Y1 Q2	Y1 Q3	Y1 Q4	Y2 Q1	Y2 Q2	Y2 Q3
investments	100k\$	400k\$	500k\$	100k\$	100k\$	60k\$	20k\$
sales volume (units)	-	-	2	10	20	30	30
material & labour costs	-	-	40k\$	200k\$	400k\$	600k\$	600k\$
income	-	-	100k\$	500k\$	1000k\$	1500k\$	1500k\$
quarter profit (loss)	(100k\$)	(400k\$)	(440k\$)	200k\$	500k\$	840k\$	880k\$
cumulative profit	(100k\$)	(500k\$)	(940k\$)	(740k\$)	(240k\$)	600k\$	1480k\$

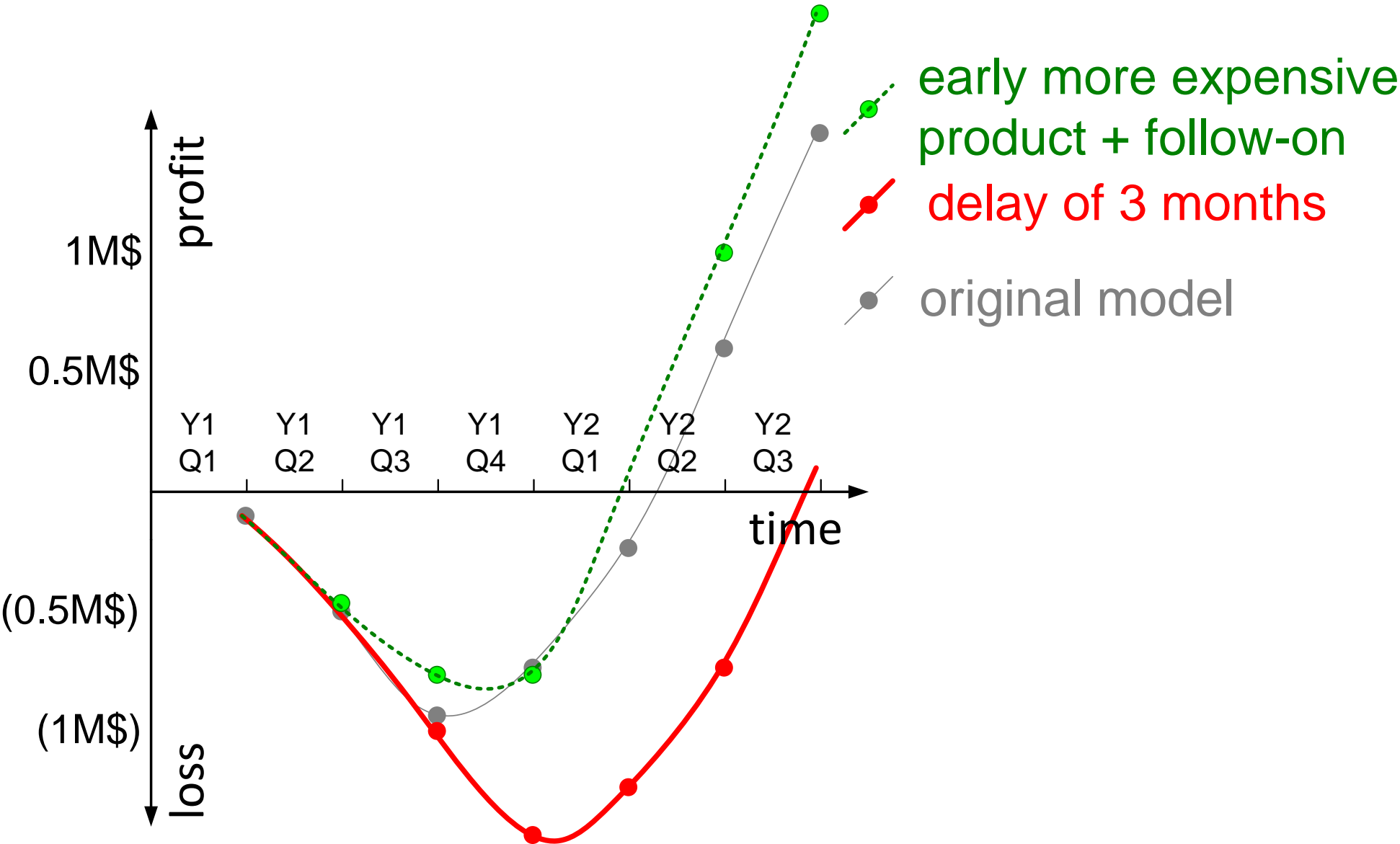
*cost price / unit = 20k\$*  
*sales price / unit = 50k\$*

*variable cost = sales volume \* cost price / unit*  
*income = sales volume \* sales price / unit*  
*quarter profit = income - (investments + variable costs)*

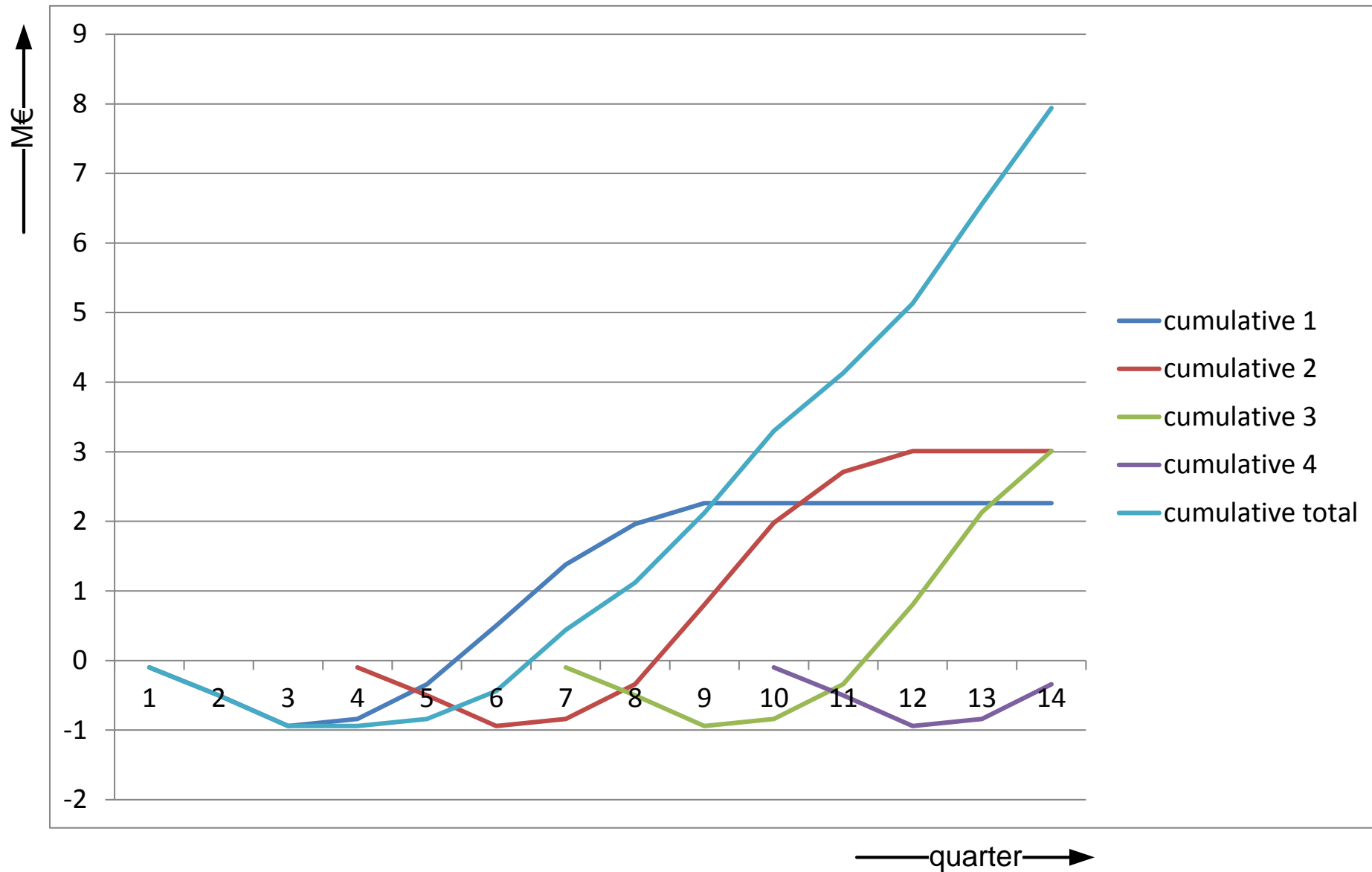
# The "Hockey" Stick



# What if ...?



# Stacking Multiple Developments



# Fashionable financial yardsticks

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Return On Investments (ROI)

Net Present Value

Return On Net Assets (RONA) leasing reduces assets, improves RONA

turnover / fte outsourcing reduces headcount, improves this ratio

market ranking (share, growth) "only numbers 1, 2 and 3 will be profitable"

R&D investment / sales in high tech segments 10% or more

cash-flow fast growing companies combine profits with negative cash-flow,  
risk of bankruptcy