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Better Science Better Health

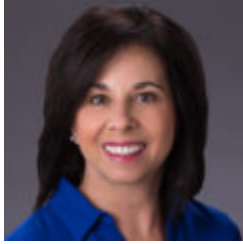


# Investing in EU Biotech IP - What Works?

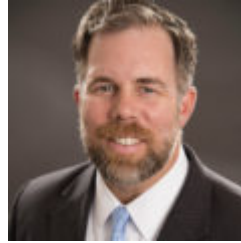


@BSBHbyVT

# Session Speakers



**Patricia Giglio**  
Content Manager  
Medtrack/Informa



**Patrick Kilbride**  
Senior Vice President, Global  
Innovation Policy Center,  
U.S. Chamber of Commerce



**Eva Grut-Aandahl**  
Vice President,  
European Government  
Affairs, Pfizer

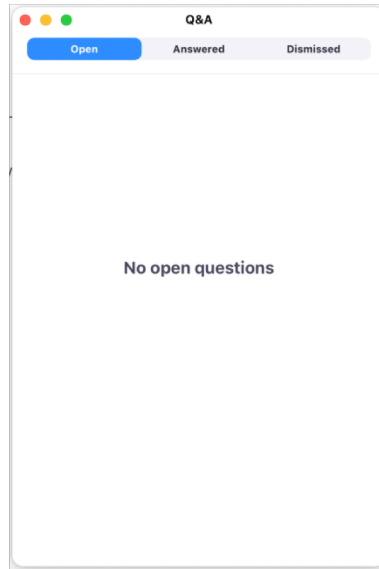
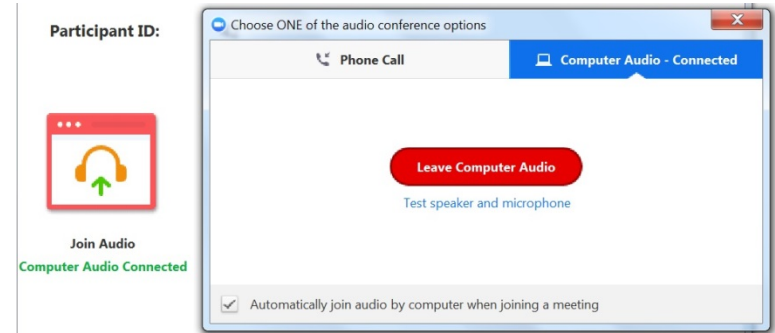


**Duane Schulthess**  
Managing Director  
Vital Transformation



# How is your connection? Ask a question?

If you are having problems with your connection, you can switch between phone and computer audio



The final 30 min of the webinar will be for audience Q&A, please use the question bar in the control panel

IP supports an ecosystem where investors are willing to lose everything 92% of the time, in order to fund the 8% of medicines that succeed.

# The Study Methodology

- Analyse all EU Biotech Start-ups from the period of 2001 – 2007 in the UK, Netherlands, Belgium, and Spain
- Only companies developing medicinal products for human consumption to be included, not diagnostics, devices, cosmetics, or agricultural bio.
- Compare the impact of IPOs, Private Investors, and direct EU funding on the success or failure of the company

# Defining a Successful Company

## Success Criteria

- Going concern, continued operation moving through clinical research
- Funding rounds/partnerships related to a successful Phase 1 or Phase 2 result of research
- Success in hitting research targets, often in EU collaborations or private licensing agreements
- Company or assets acquired with value increase (sold at a premium)

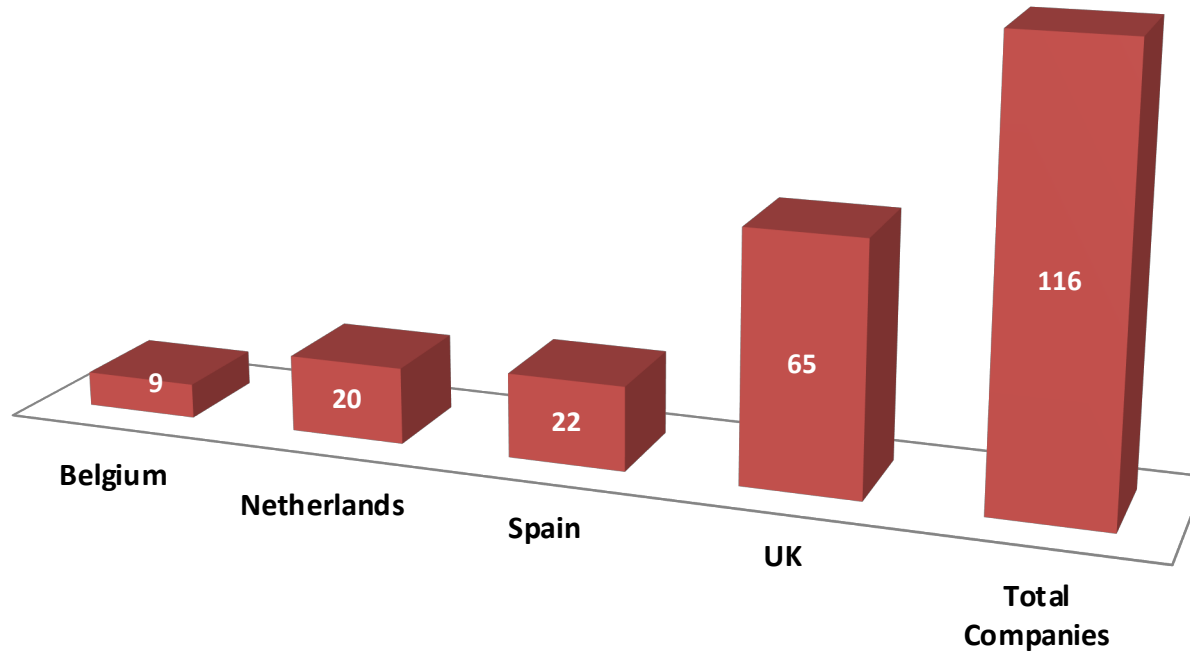
## Not a success

- Ceases to trade
- Zombie company with no activity nor clinical trials over multiple years
- Major failure of lead product trial (often with unpublished trial results for academic spin outs and early stage companies)
- Acquisition at a loss, salvage sale of a company

# The Study Sources

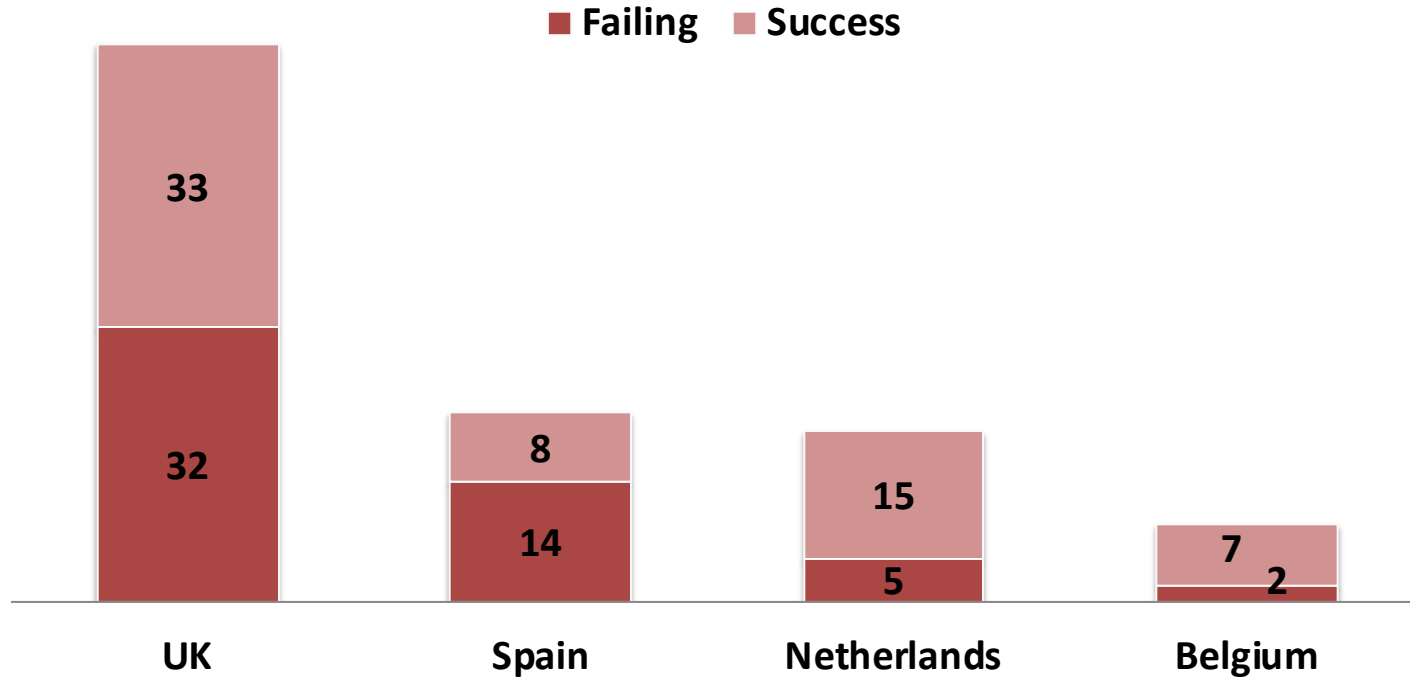
- Medtrack/Informa
- Annual reports
  - Companies House (UK)
  - Dutch Chamber of Commerce
  - InfoEmpresa (ES)
  - TrendsTop (BE)
- <https://clinicaltrials.gov/>, <https://www.clinicaltrialsregister.eu>
- Press releases/Internet search
- EU CORDIS (Community Research & Development Information Service) and EU FTS (Financial Transparency System) databases – A record of all funding received by organisations from the EU under Framework Research Programmes from 2001 to the present

# Total Number of Firms Studied by Country

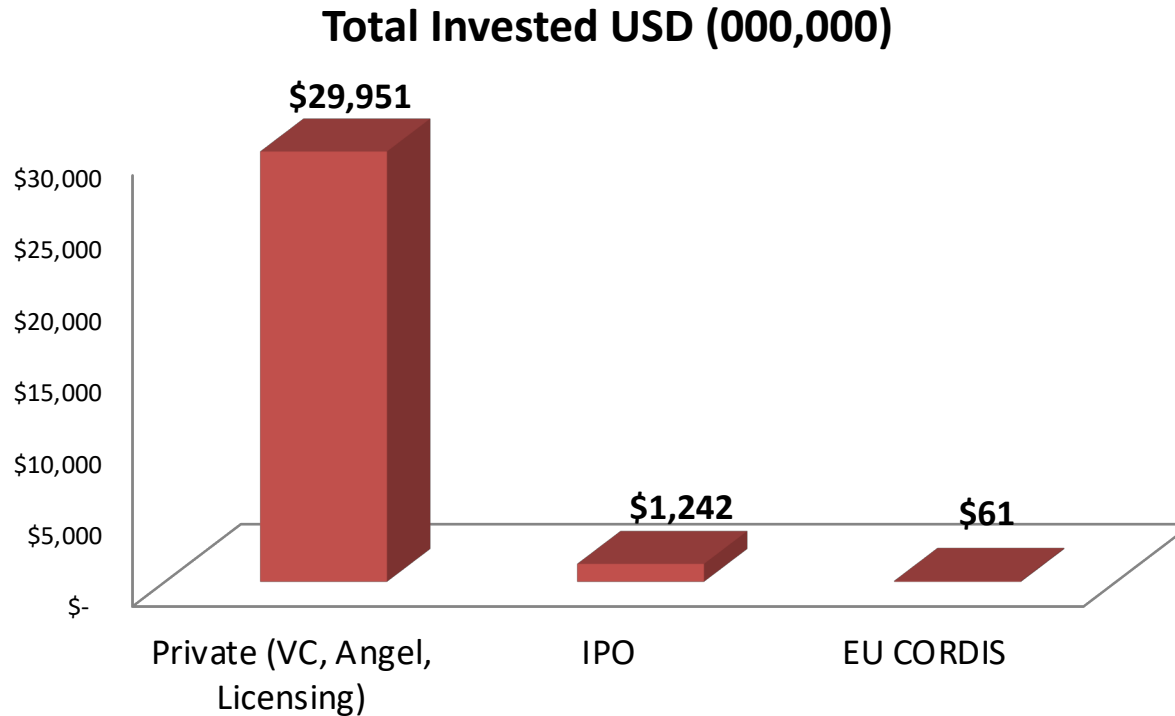




# Firms Succeeding and Failing



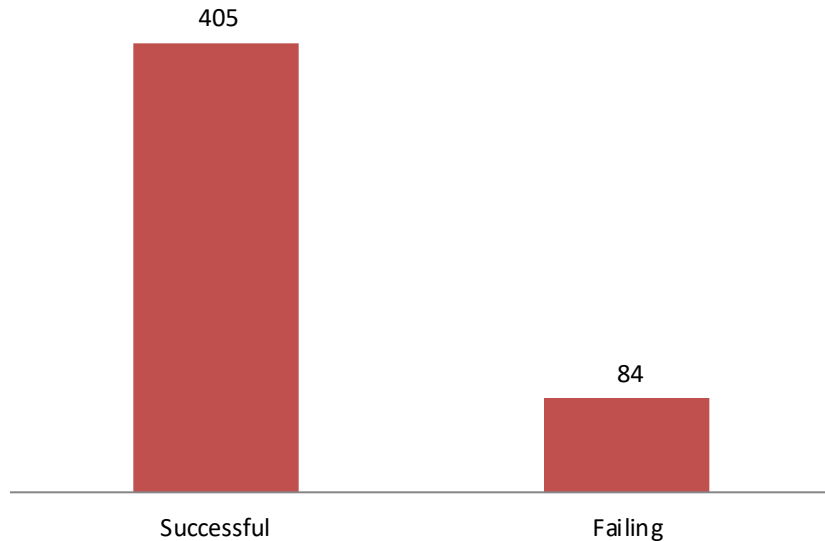
# Total Amount of Investment by Type



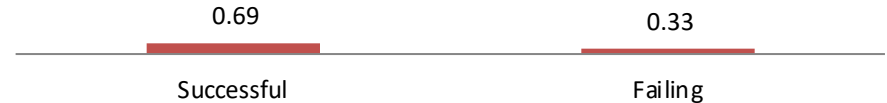
# Successful and Not Successful Firms

## Private Funding Per Firm Far Exceeds That in EU CORDIS

**Average Amount Privately Funded**  
\$US (000,000)



**Average Amounts Funded in EU**  
\$US (000,000)



# Public or Private Investment in IP

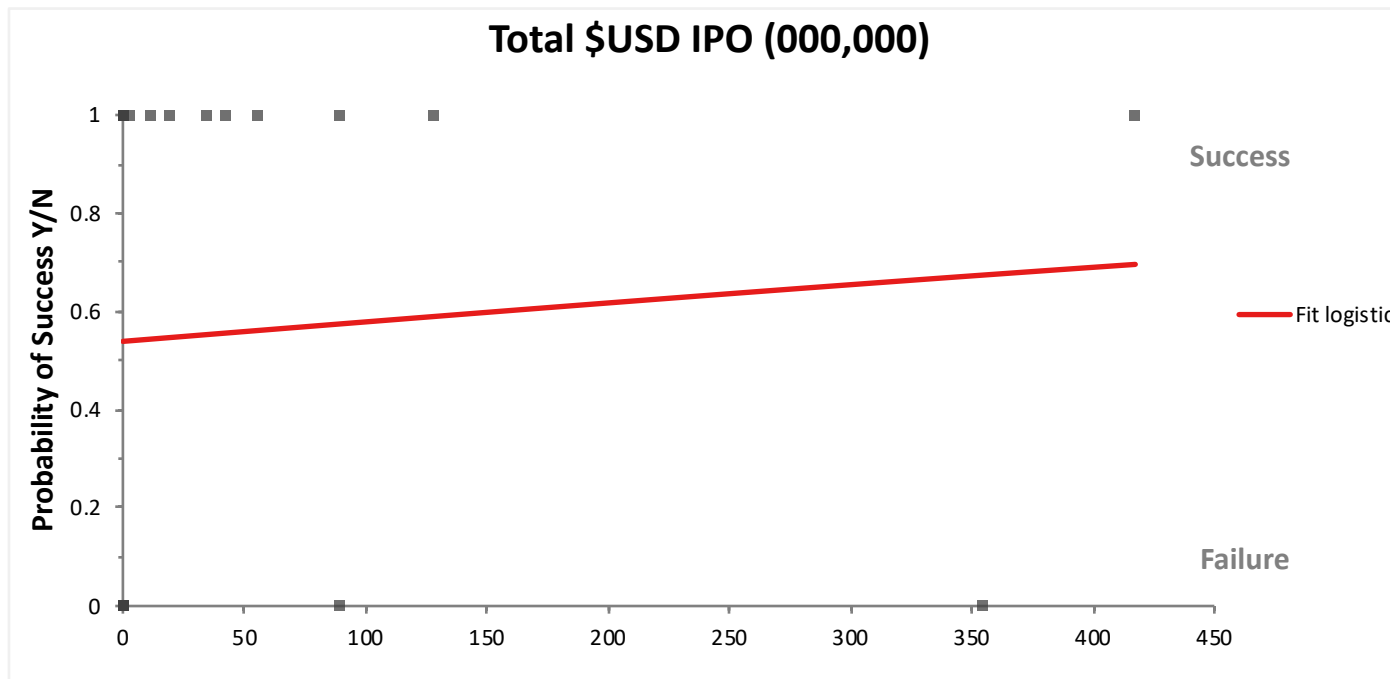
## What Drives Success?

Do EU Grants in CORDIS, Private Funders, or IPOs (listing on a stock market) have a statistically significant impact on the success of a firm?

Logistic Regression will allow us to test these hypothesis against a binary answer “Success” or “Fail”

# DO IPO's Impact the Success of EU Firms Statistically? No

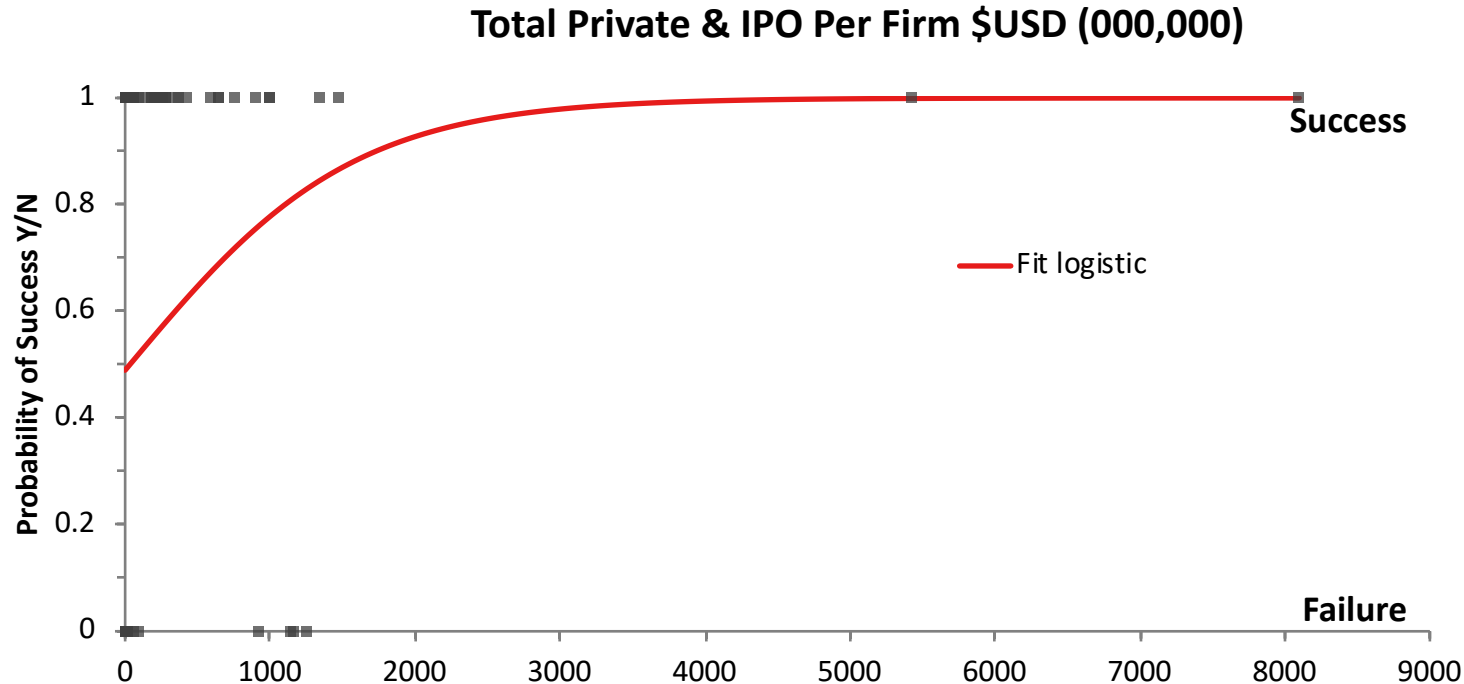
Logistic Regression - Probability of Success



Source	-LogLikelihood	DF	G <sup>2</sup> statistic	p
Difference	0.097132	1	0.19	0.6594
Fitted model	79.876	114		
Null model	79.974	115		

# Total Private Funding is Statistically Significant

## Logistic Regression - Probability of Success

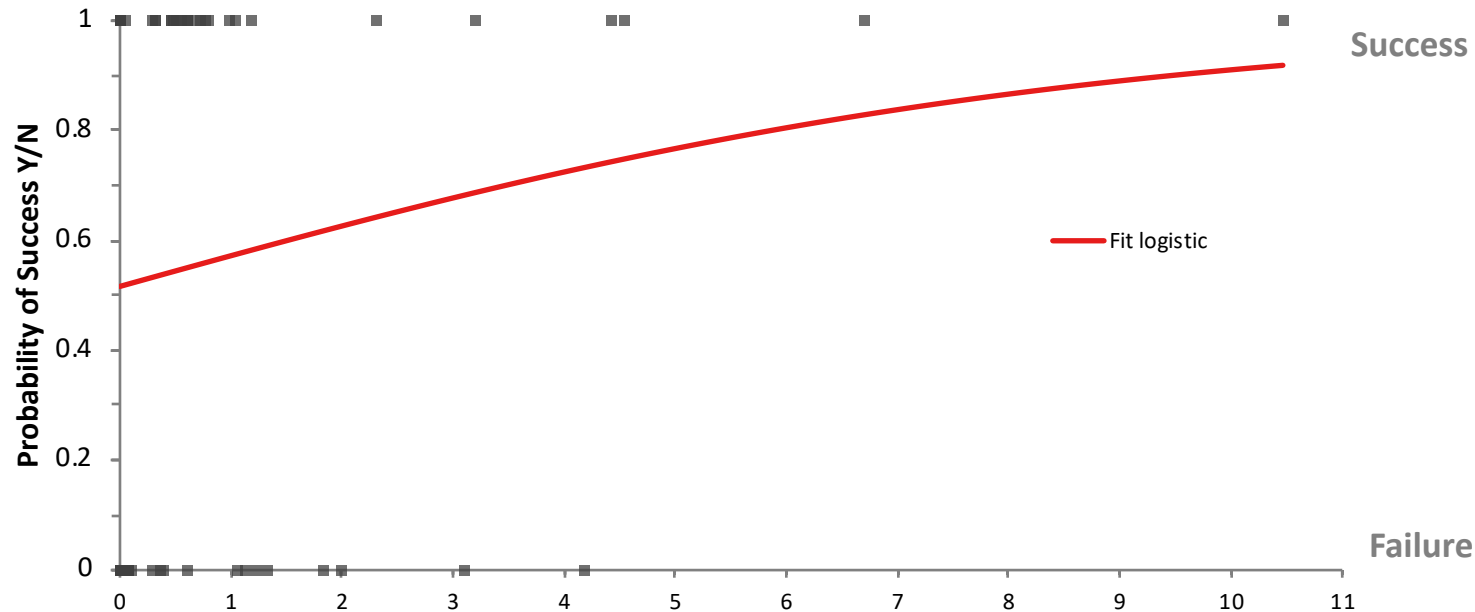


Source	LogLikelihood	DF	G <sup>2</sup> statistic	p
Difference	3.2443	1	6.49	0.0109
Fitted model	76.729	114		
Null model	79.974	115		

# EU Funding is NOT Statistically Significant

## Logistic Regression - Probability of Success

Total EU Grants Per Firm \$USD (000,000)

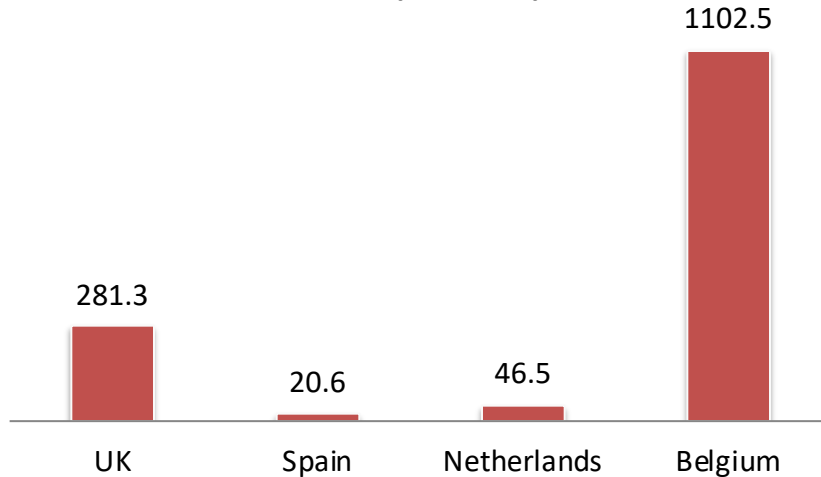


Source	LogLikelihood	DF	G <sup>2</sup> statistic	p
Difference	1.0378	1	2.08	0.1497
Fitted model	78.936	114		
Null model	79.974	115		

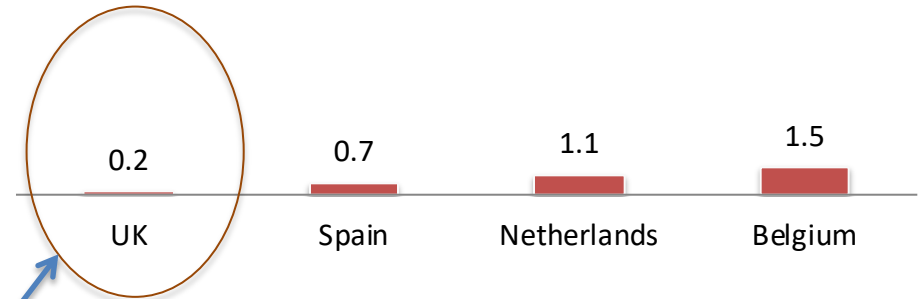
# Total Amount of Investment

## Average per Firm

**Average Total Private Funding Per Firm**  
\$USD (000,000)



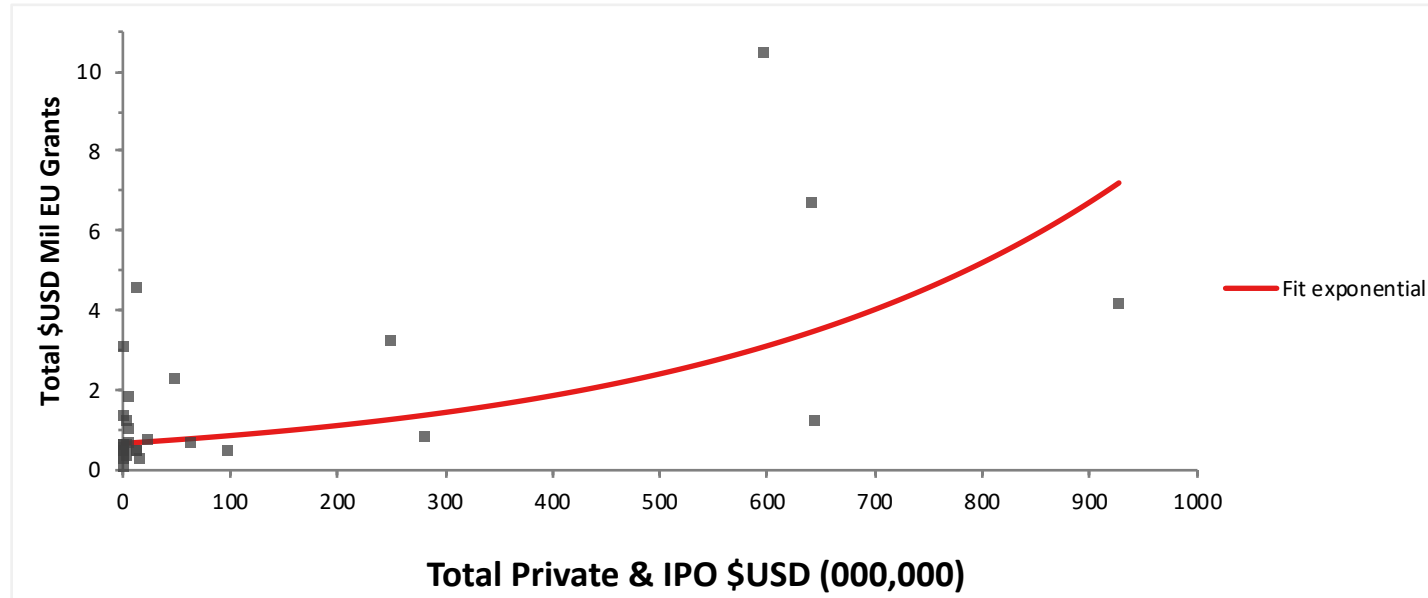
**Average EU Funding Per Firm**  
\$USD (000,000)



Could this be impacting our regression



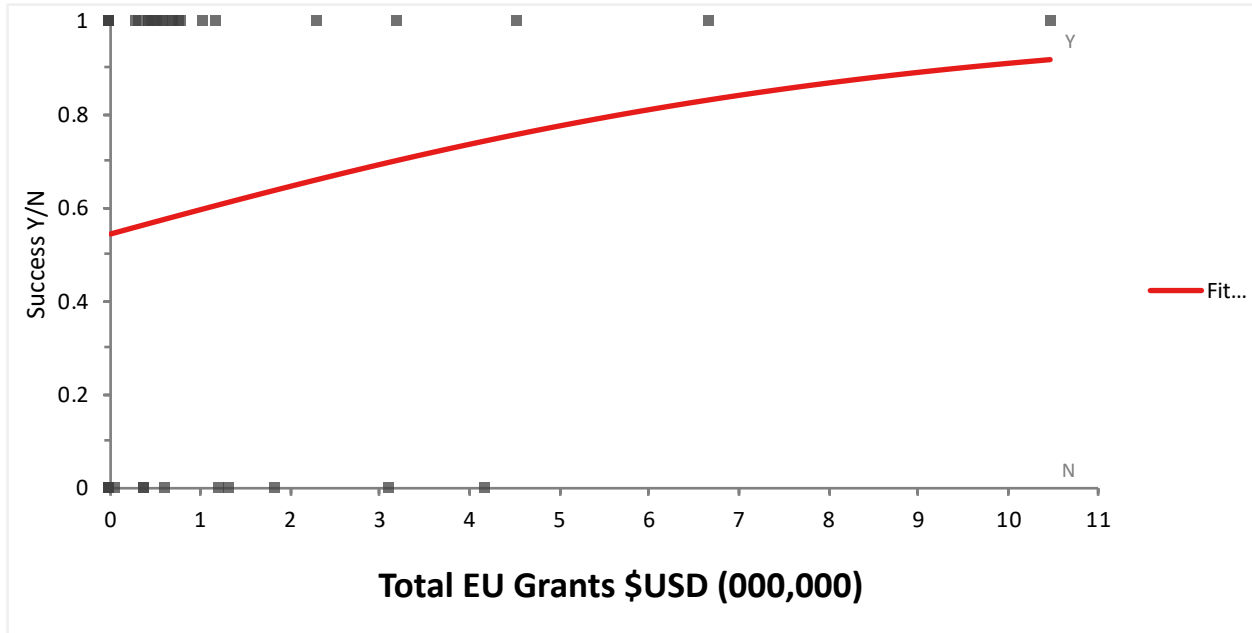
# Testing Private Funding's Ability to Predict the Amount of EU Funding in BE, NL, ES (UK Removed)



Private funding predicts EU funding to biotech companies - high statistical certainty

Source	SS	DF	MS	F	p-value
Difference	11.379944501	1	11.379944501	13.60	0.0010

# Does EU Funding Predict Success in European Biotech if the UK is Excluded from the data?

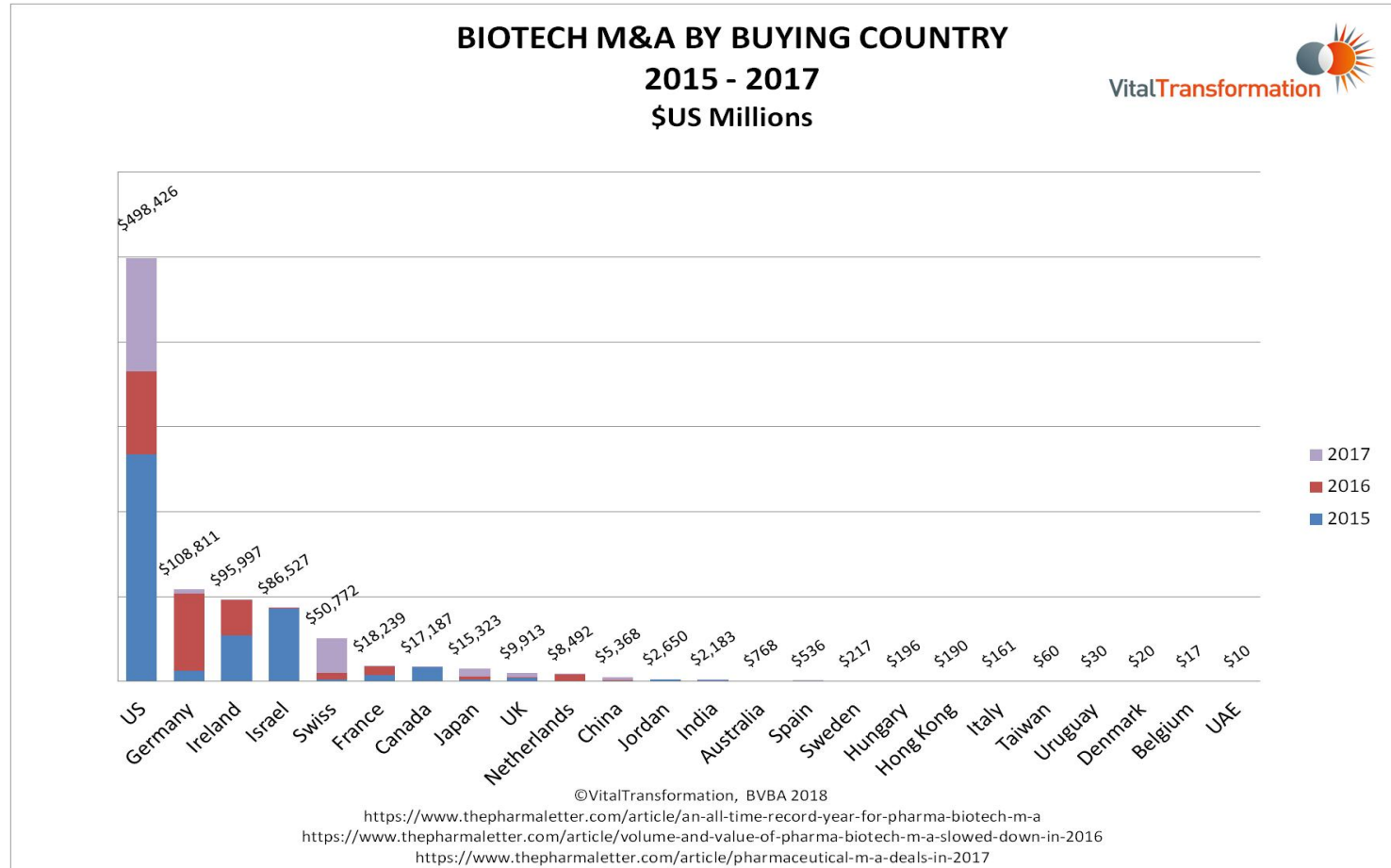


Nope

Source	-LogLikelihood	DF	G <sup>2</sup> statistic	p
Difference	0.69921	1	1.40	0.2370
Fitted model	33.853	49		
Null model	34.552	50		

# The International Marketplace for Biotech IPR

## US Bought 70% of Mature IP in 2017



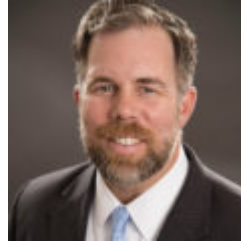
# Research Results

- The total private funding given to a firm (IPO, Private Investment, Licensing) is statistically significant to the firm's probability of success
- Initial Public Offerings (Stock Market Listings) do NOT impact the success of EU firms, this may be a reason that mature firms are leaving the EU
- EU funding given directly to a firm does not impact the success rate of the individual firm with statistical certainty
- EU funding given directly to a firm can be predicted with certainty by the total amount of private investments made to a company in BE, NL, and ES, but not the UK. i.e. Private investments predict levels of EU funding
- “The Market” decides which firms will be successful by allocating resources; actions that impact investor confidence (threats against IPR, attacking market exclusivity) will negatively impact the amount of private money invested and the success of firms

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Content Manager  
Medtrack/Informa



**Patrick Kilbride**  
Senior Vice President, Global  
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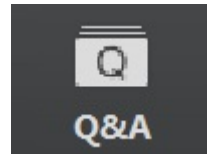


**Eva Grut-Aandahl**  
Vice President,  
European Government  
Affairs, Pfizer



**Duane Schulthess**  
Managing Director  
Vital Transformation

## Questions?



# Medtrack

**Patricia Giglio**

Content Manager

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## About Medtrack

Medtrack provides a comprehensive view of the biopharmaceutical business landscape – companies, investments, partnerships, pipelines, patents, sales and epidemiology

**46,779 Companies**

**188,791 Drugs**

**161,390 Deals**

37,140 Venture Transactions

>100,000 partnerships

20,268 M&A

**1,812 Therapy Areas**

**268,679 Contacts**

**214 Countries**

**>900,000 News Items**



## Business intelligence to support multiple functions

- **Market research:** monitor market-moving events like patent expiries, incidence/prevalence rates, historical/forecasted sales across the industry
- **Competitive intelligence:** track competitors' drug development, financials, deals and patents
- **Clinical research:** **global** status on product development at the company and drug level, trends in new drug mechanisms of action and disease targets
- **Licensing opportunities:** in- and out-licensing and other commercialization trends such as royalty and milestone payments by phase
- **Investment Research:** financial deals and venture capital data for target prospecting by region and therapy area and for evaluating investment trends
- **Business development:** contact screening for relationship management, conference attendees, management biographies



# Medtrack Coverage

## Companies:

Medtrack covers over 44,000 companies focused in the life sciences, and classifies them into 14 main industry categories

- Information such as investments, news, management profiles, pipelines are monitored and updated in real time

## Deals:

- Medtrack contains close to 146,000 deals involving biomedical companies, including public offerings, M&A and private equity deals, partnership deals, venture financings and private placement deals.

## News:

- Over 800,000 searchable press releases in Medtrack with news related to company announcements, financial deals, intellectual property, market developments, product and regulatory updates.

# Medtrack Coverage

## Products:

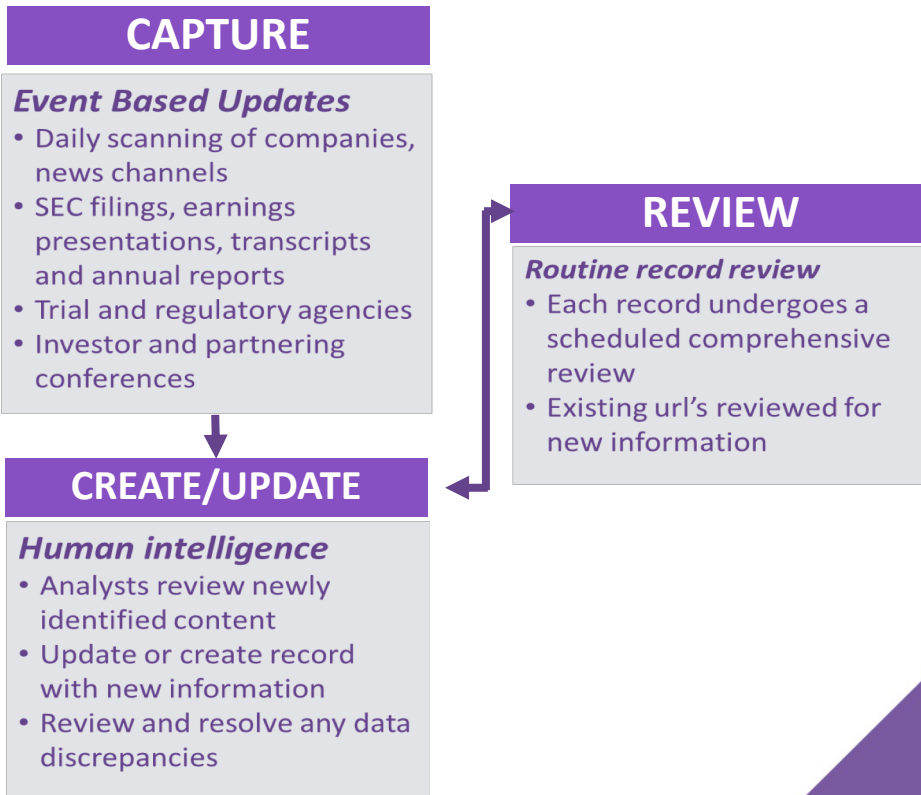
- Medtrack currently tracks more than 180,000 investigational, branded and generic drugs, from the research through commercialization and post-marketing studies
  - Products are identified and categorized by therapeutic indication, target, mechanism of action, chemical/biological classification
  - Global patent coverage on drugs beginning in phase I
  - Historical and forecasted sales

## Epidemiology:

- Over 800 indications, with prevalence and incidence rates and population based projections.

# How We Do It

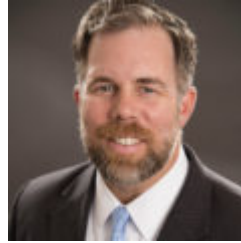
## Rigorous editorial process



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