AUGUST 2019

Causal

The modelling tool that gives anyone the power of a data scientist.

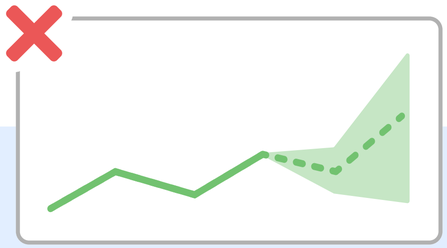
https://causal.app / hi@causal.app

The Problem

You work in biz ops, and need to build a cashflow forecasting model.

Need advanced analysis?

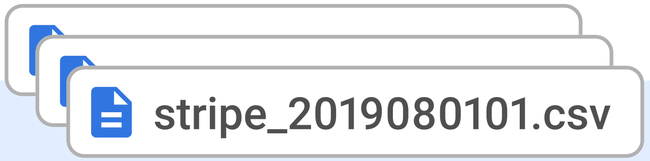
If you need anything sophisticated, like probabilistic modelling or time-series forecasting, you can't do it in a spreadsheet.



Spreadsheets can't do advanced analysis.

Need to use real data?

You'll need to manually export CSVs from each data source. If you want to automate this, you'll need engineers to build data pipelines.



Spreadsheets can't connect to data.

Need to collaborate?

Once your model gets a little complicated, only you'll understand it. Every change has to go through you, and things break often.



Spreadsheets aren't maintainable.

Today

Every company uses spreadsheet models, and every company faces these problems.

Big companies use Excel plugins.

Data: Blooomberg, FactSet (financial data)
Collaboration: ClusterSeven (version control)
Advanced analysis: @RISK / Crystal Ball (probability)

They pay a lot: We heard from an ex-@RISK VP Sales that General Electric bought 10,000 licenses (8-figure deal).

We offer these out-of-the-box: 85% of Fortune 500 companies use Crystal Ball, and we've already built its core functionality (Monte Carlo simulation) into Causal.

Most companies use manual processes.

Data: ad-hoc CSVs/data pipelines managed by engineers
Collaboration: colour-coded formatting conventions
Advanced analysis: data scientists/consultants

Standalone products in the space:

Spreadsheets as apps: Smartsheet, Airtable, Glide
Spreadsheets + data: dashdash, Actiondesk
Vertical solutions: Anaplan, Adaptive Insights (business planning), Fluidly (cashflow forecasting)
"Data analytics" tools: Alteryx

Our Team

We've solved these problems for one company, now we're solving them for everyone.

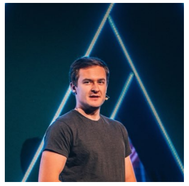


Taimur Abdaal

Maths & Statistics, Oxford

First data scientist @ Nested (London)
Built probabilistic forecasting models to replace spreadsheets. Built ML models for real estate valuation.

First employee @ Retool (YC W18, San Francisco)
Led design + growth from public launch to Series A (led by Sequoia) at $1MM ARR.



Lukas Koebis

Maths & CS, Oxford

Software engineer @ WhatsApp (Menlo Park)
Grew integrity team (machine learning for abuse detection) from 4 to 25 in 18 months across two locations.

Built WhatsApp's top-performing spam classifiers, and managed all ML pipelines.

Our Solution: A new paradigm for quantitative work.

The spreadsheet paradigm forces you to think in cells (“C3”). Causal lets you think in concepts (“Revenue”). Common modelling needs (time-series, uncertainty, and more) are first-class citizens, saving time and reducing complexity. Our paradigm enables advanced functionality on top, giving anyone the power of a data scientist.

BEFORE		AFTER
Copy/pasting sections in multiple places		Modular, re-usable building blocks
Manually slicing and dicing dimensions		Dimensions + time-series handled automatically
Copy/pasting data and importing CSVs	→	Direct connections to live data sources
Waiting minutes/hours for models to run		Models running in real-time in the cloud
Data scientists for advanced analytics		Self-serve advanced analytics for everyone

Spreadsheets make models complicated but not sophisticated.

Causal makes models sophisticated but not complicated.

The Old Way: Spreadsheets

No modularity

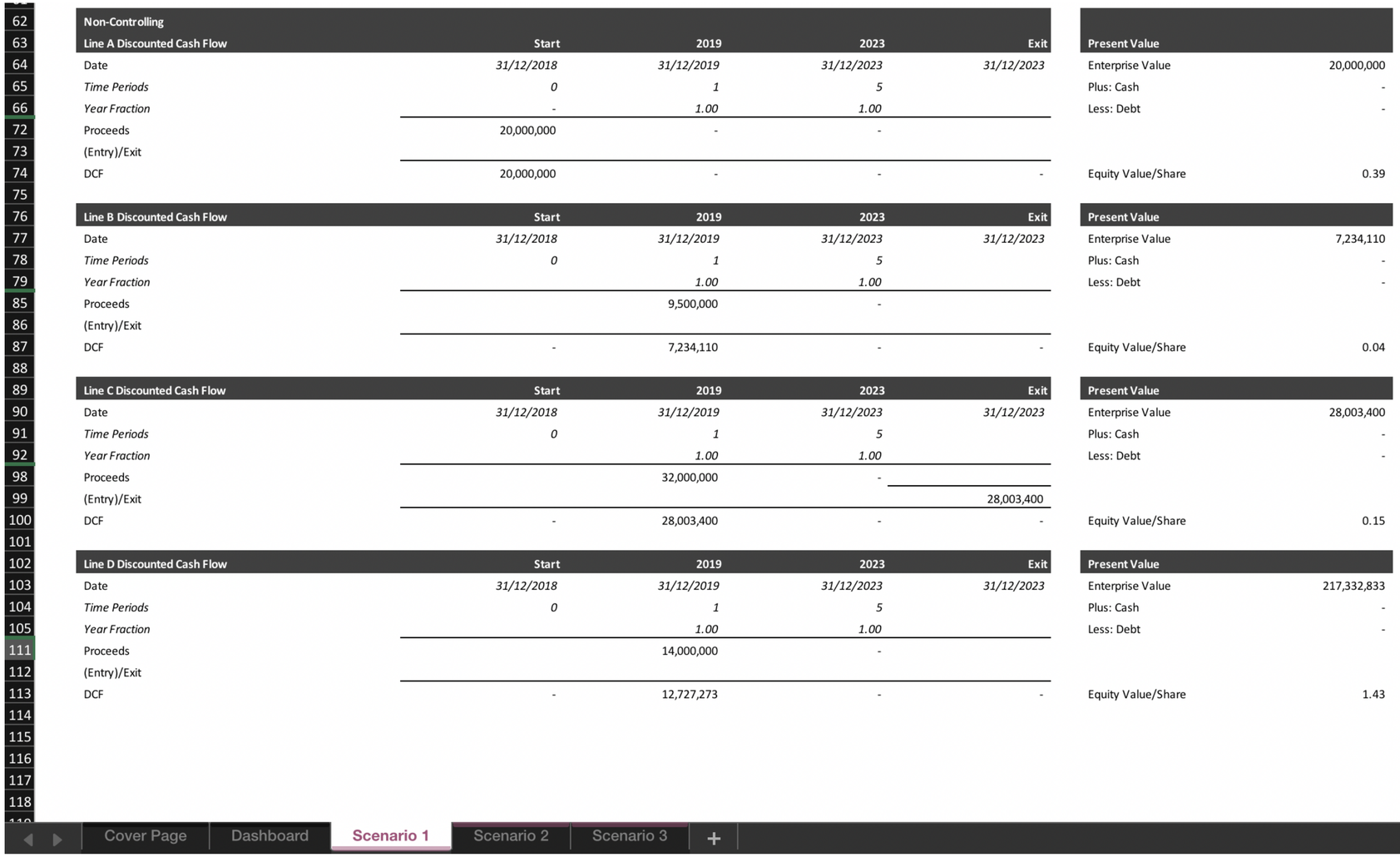
Same model structure duplicated
4 times in 3 scenarios
= 12 copies

No modelling abstractions

Time-series require manual handiwork across 8 columns and 3 rows per model structure

No treatment of uncertainty

No way of knowing how confident to be in model outputs



Non-Controlling					
Line A Discounted Cash Flow	**Start**	**2019**	**2023**	**Exit**	**Present Value**
Date	*31/12/2018*	*31/12/2019*	*31/12/2023*	*31/12/2023*	Enterprise Value 20,000,000
Time Periods	*0*	*1*	*5*		Plus: Cash -
Year Fraction	-	*1.00*	*1.00*		Less: Debt -
Proceeds	20,000,000	-	-		
(Entry)/Exit					
DCF	20,000,000	-	-	-	Equity Value/Share 0.39
Line B Discounted Cash Flow	**Start**	**2019**	**2023**	**Exit**	**Present Value**
Date	*31/12/2018*	*31/12/2019*	*31/12/2023*	*31/12/2023*	Enterprise Value 7,234,110
Time Periods	*0*	*1*	*5*		Plus: Cash -
Year Fraction		*1.00*	*1.00*		Less: Debt -
Proceeds		9,500,000	-		
(Entry)/Exit					
DCF	-	7,234,110	-	-	Equity Value/Share 0.04
Line C Discounted Cash Flow	**Start**	**2019**	**2023**	**Exit**	**Present Value**
Date	*31/12/2018*	*31/12/2019*	*31/12/2023*	*31/12/2023*	Enterprise Value 28,003,400
Time Periods	*0*	*1*	*5*		Plus: Cash -
Year Fraction		*1.00*	*1.00*		Less: Debt -
Proceeds		32,000,000	-		
(Entry)/Exit				28,003,400	
DCF	-	28,003,400	-	-	Equity Value/Share 0.15
Line D Discounted Cash Flow	**Start**	**2019**	**2023**	**Exit**	**Present Value**
Date	*31/12/2018*	*31/12/2019*	*31/12/2023*	*31/12/2023*	Enterprise Value 217,332,833
Time Periods	*0*	*1*	*5*		Plus: Cash -
Year Fraction		*1.00*	*1.00*		Less: Debt -
Proceeds		14,000,000	-		
(Entry)/Exit					
DCF	-	12,727,273	-	-	Equity Value/Share 1.43

Cover Page | Dashboard | Scenario 1 | Scenario 2 | Scenario 3 | +

The New Way: Causal

Modular building blocks

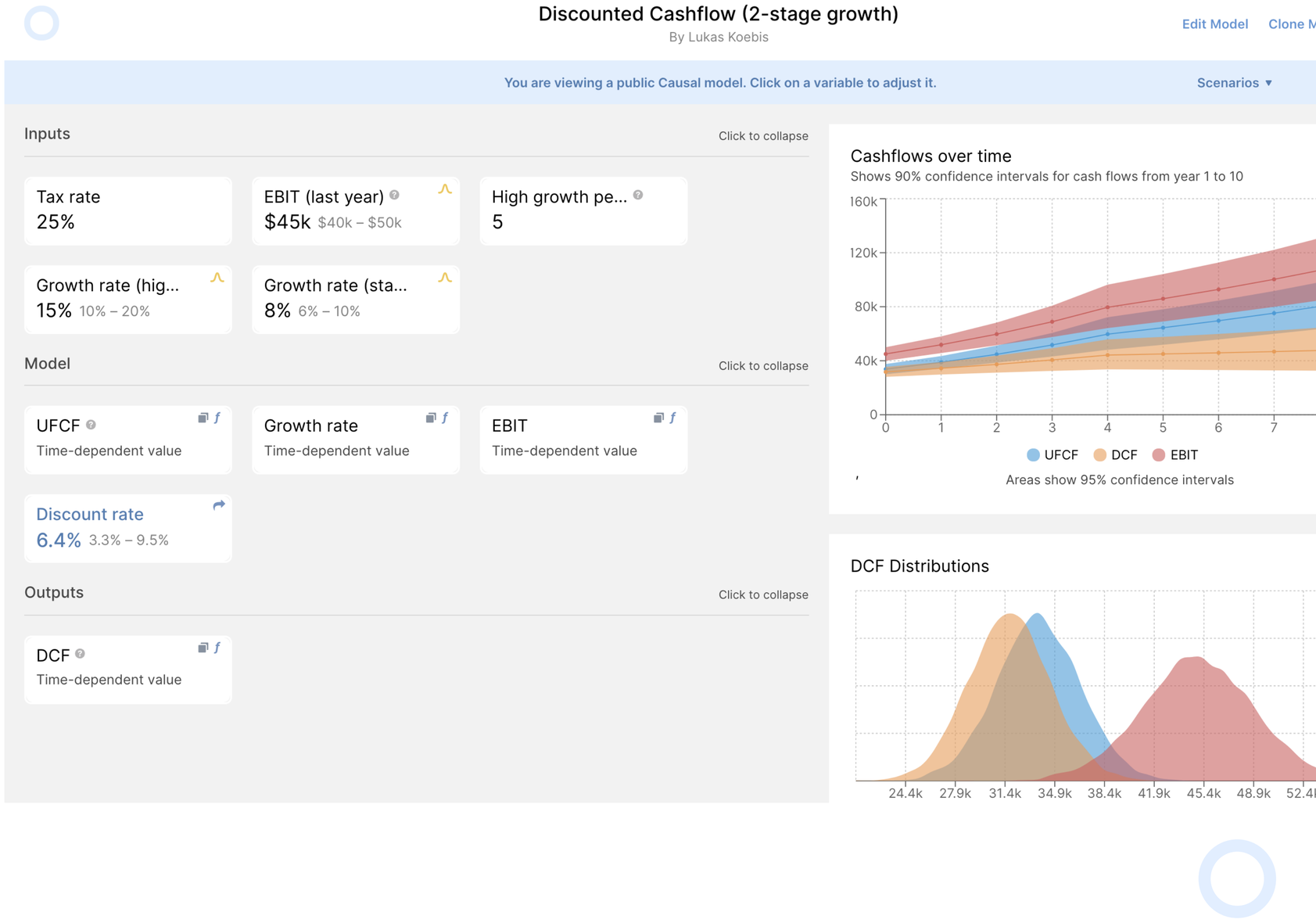
Import instances of other models to reduce duplication and break up complexity

Abstractions just for modelling

No manual handiwork for common modelling needs, like time-series and scenarios

Quantified uncertainty

Express uncertainty using distributions and automatically see the full range of possible outcomes



The Market

We’re targeting existing categories, while creating a new one.

$1B

Excel plugins for probabilistic modelling

$10B

Modelling consulting services

New generation of non-technical users with data science capabilities

The Time is Now

Browser technology and cloud computing are enabling a new generation of productivity tools.

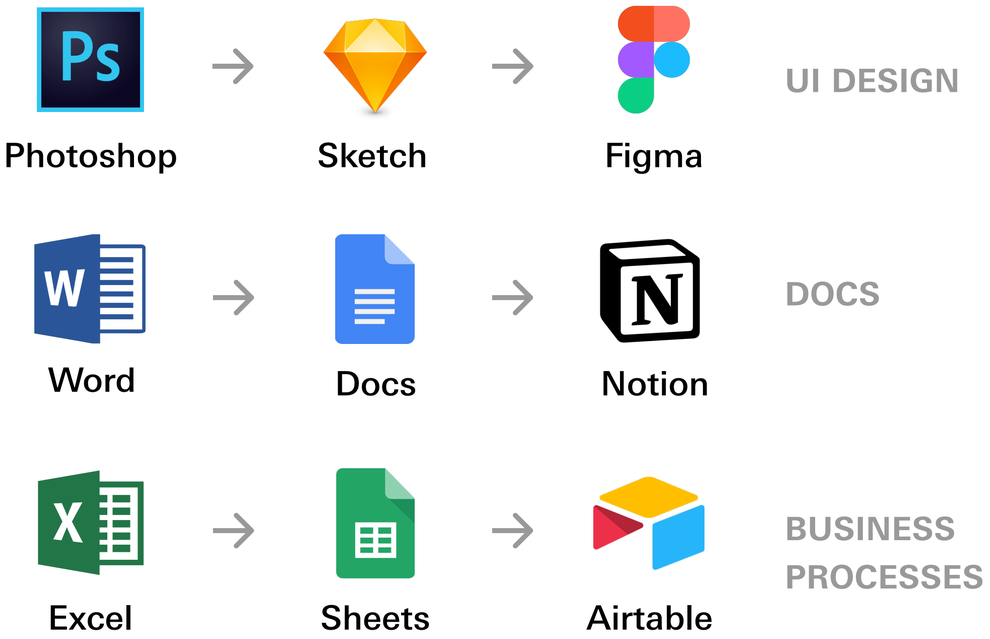
Enterprise 2.0

To adapt to the way people work today, every software category is shifting from monolithic desktop apps to collaborative web tools with consumer-grade UX. Causal is doing this for modelling.

Commoditised cloud computing

Speed is a bottleneck for spreadsheets that use data — JP Morgan's credit risk models take 7 hours to re-run after each change.

With data growing exponentially in all areas, spreadsheets can't keep up. Causal performs distributed computation in the cloud, turning 7 hours into 7 seconds.



Growth Hypotheses

How we'll achieve Slack-like bottom-up adoption

Enterprise Virality

Once someone builds a model in Causal, they'll invite collaborators and stakeholders to view it — each user will expose multiple other users to the product.

1. One person builds a model.
2. Rest of their team invited to view the model.
3. Rinse and repeat.

This applies at all scales — one person invites others on their team, one team invites other teams in the company, one company invites partner/client/investor companies.

"Native content marketing"

20,000 people checked out our live demos in April, leading to 1,000 beta signups — Causal models make for very engaging content.

We can create a library of example models for each vertical we go after, that users can "clone" and modify. These will be

1. A way to see the product before signing up.
2. A low-friction entrypoint to start using the product.

Our Progress

2019

April

Built landing page + live demos

Reached front page of Hacker News

May

1,000 beta signups

Started testing GTM hypotheses

June

Built initial prototype

Started testing prototype with beta users

July

Shipped “Nested Models” feature

Pilot discussions with Brex, Atlassian, and others

Go-to-market verticals tested:

Private equity: 70% of time spent modelling, willing to pay a lot for productivity, but very slow-moving — not early adopters.

Biz ops at tech companies: 50% of time spent modelling, fast-moving + keen to try new tools — ideal early adopters.

Boutique consulting firms: lots of time spent modelling, keen to try new tools — potentially good early adopters, but need to validate whether they reference each other when buying new software.

Boutique investment funds: currently testing.

Our Plan

We're raising $300k to get to a polished v1 and be ready for growth.

January

Settled on 2 initial niches to target

Started iterating on beta product with users

January

Polished v1 — ready to launch publicly

+ kick-start growth engine

2020

2021

August

Hired first engineer

Iterated to the point where beta users are paying

Get in touch: hi@causal.app