The State of Free & Open Source Funding

FOSDEM 2024

KARA SOWLES

GitHub

Hi, I'm

KARA SOWLES DELOSS

I work at **GitHub** as a Senior Open Source Program Manager, working directly with free & open source software maintainers. It's my role to listen to their needs, and **advocate for maintainers internally and within the industry at large**.

Last year, I ran the inaugural cohort of the **GitHub Accelerator**. I also organize our **Maintainer Community**, **Maintainer Month** in May, a **Maintainer Summit**, and more.

Outline

We're just talking about cash today.

01 FUNDING PLATFORMS

02 FOSS CONTRIBUTOR FUNDS

03 INDIVIDUAL SPONSORSHIPS

03 FOUNDATION MEMBERSHIP

04 GRANT & GOVT FUNDING

04 VENTURE FUNDING
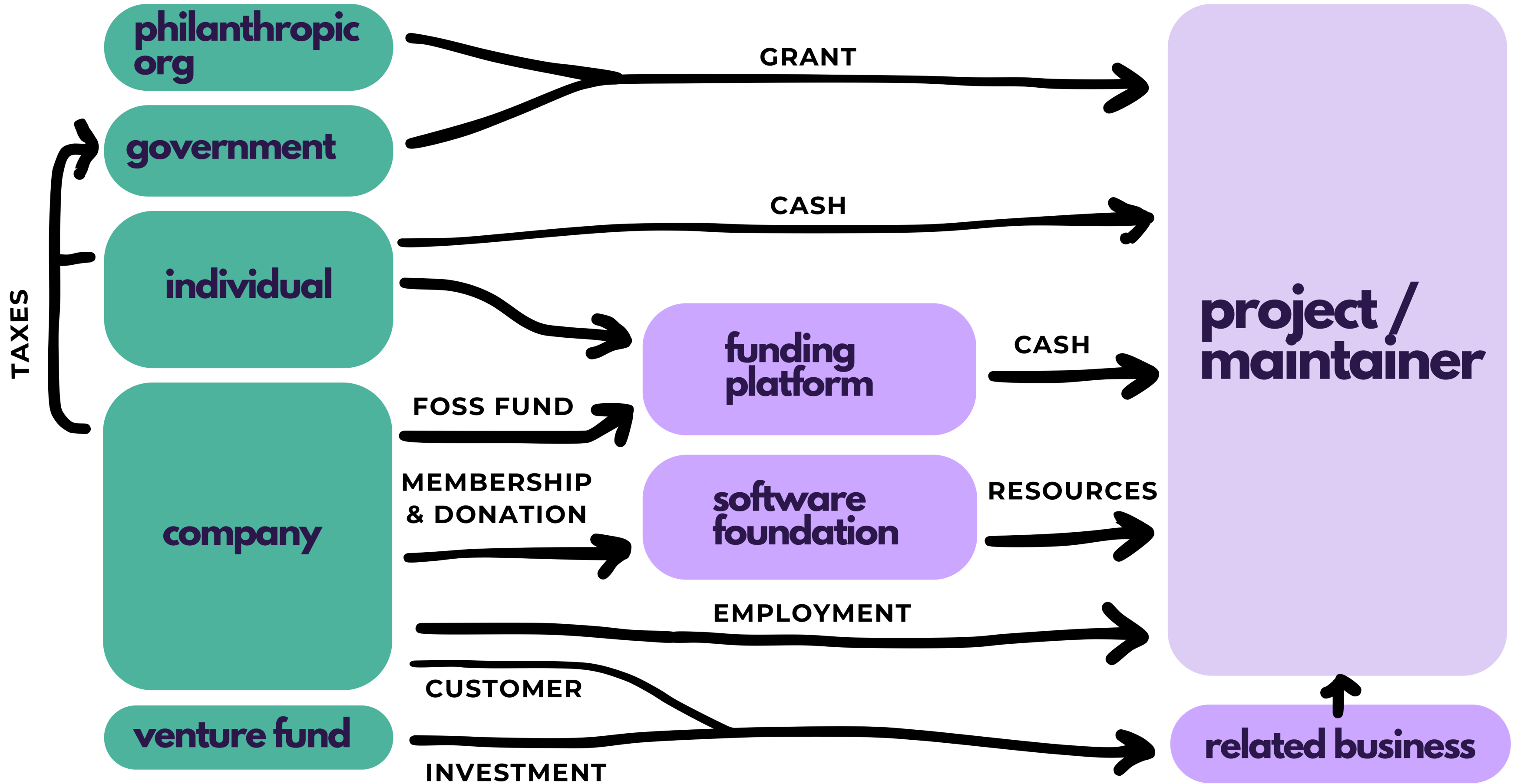
Many of the things that maintainers need are not cash!

there's big $ value in open source

"COMPANIES IN THE EU INVESTED AROUND €1 BILLION IN OPEN SOURCE SOFTWARE IN 2018, WHICH BROUGHT A POSITIVE IMPACT ON THE EUROPEAN ECONOMY OF €65 TO €95 BILLION

WE PREDICT THAT AN INCREASE OF 10% IN CONTRIBUTIONS TO OPEN SOURCE SOFTWARE CODE WOULD ANNUALLY GENERATE AN ADDITIONAL 0.4% TO 0.6% GDP, AS WELL AS MORE THAN 600 ADDITIONAL ICT START-UPS IN THE EU.

- European Commission study on the impact of Open Source on the European economy, 2021

money flow to FOSS maintainers

philanthropic org → GRANT → **project / maintainer**

government

TAXES

individual → CASH → **project / maintainer**

individual → **funding platform** → CASH → **project / maintainer**

company → FOSS FUND → **funding platform**

company → MEMBERSHIP & DONATION → **software foundation** → RESOURCES → **project / maintainer**

company → EMPLOYMENT → **project / maintainer**

company → CUSTOMER → **related business**

venture fund → INVESTMENT → **related business** → **project / maintainer**

KARA SOWLES, FOSDEM 2024

why do we care about funding software maintenenace?

"90% OF COMPANIES
USE OPEN SOURCE"

- 2021 State of Open report, OpenUK

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"FOSS CONSTITUTES 70-90% OF ANY GIVEN PIECE OF MODERN SOFTWARE SOLUTIONS."

- The Linux Foundation

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- 2023 Open Source Security and Risk Analysis Report, Synopsys

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"89% OF CODEBASES CONTAINED OPEN SOURCE MORE THAN 4 YEARS OUT OF DATE."

- 2023 Op
 An

"84% OF CODEBASES CONTAINED AT LEAST ONE KNOWN OPEN SOURCE VULNERABILITY."

- 2023 Open Source Security and Risk Analysis Report, Synopsys

what do we know about FOSS maintainers and money?

60% of maintainers are **unpaid hobbyists**

13% I'm a **professional maintainer**, and earn most of my income from maintaining projects

46% I'm an **unpaid hobbyist**, but would appreciate getting paid for maintaining projects

23% I'm a **semi-professional maintainer**, and earn some of my income from maintaining projects

14% I'm an **unpaid hobbyist** and do not want to get paid for maintaining projects

source: 2023 Tidelift State of the Open Source Maintainer Report

77% of **unpaid** maintainers would **prefer to be paid**

46%
I'm an **unpaid hobbyist**, but would appreciate getting paid for maintaining projects

14%
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source: 2023 Tidelift State of the Open Source Maintainer Report

44% are solo maintainers

58% have at least considered quitting a project

22% have actually quit maintaining a project

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22% have actually quit maintaining a project

56% said earning more money for maintenance work would keep them from quitting
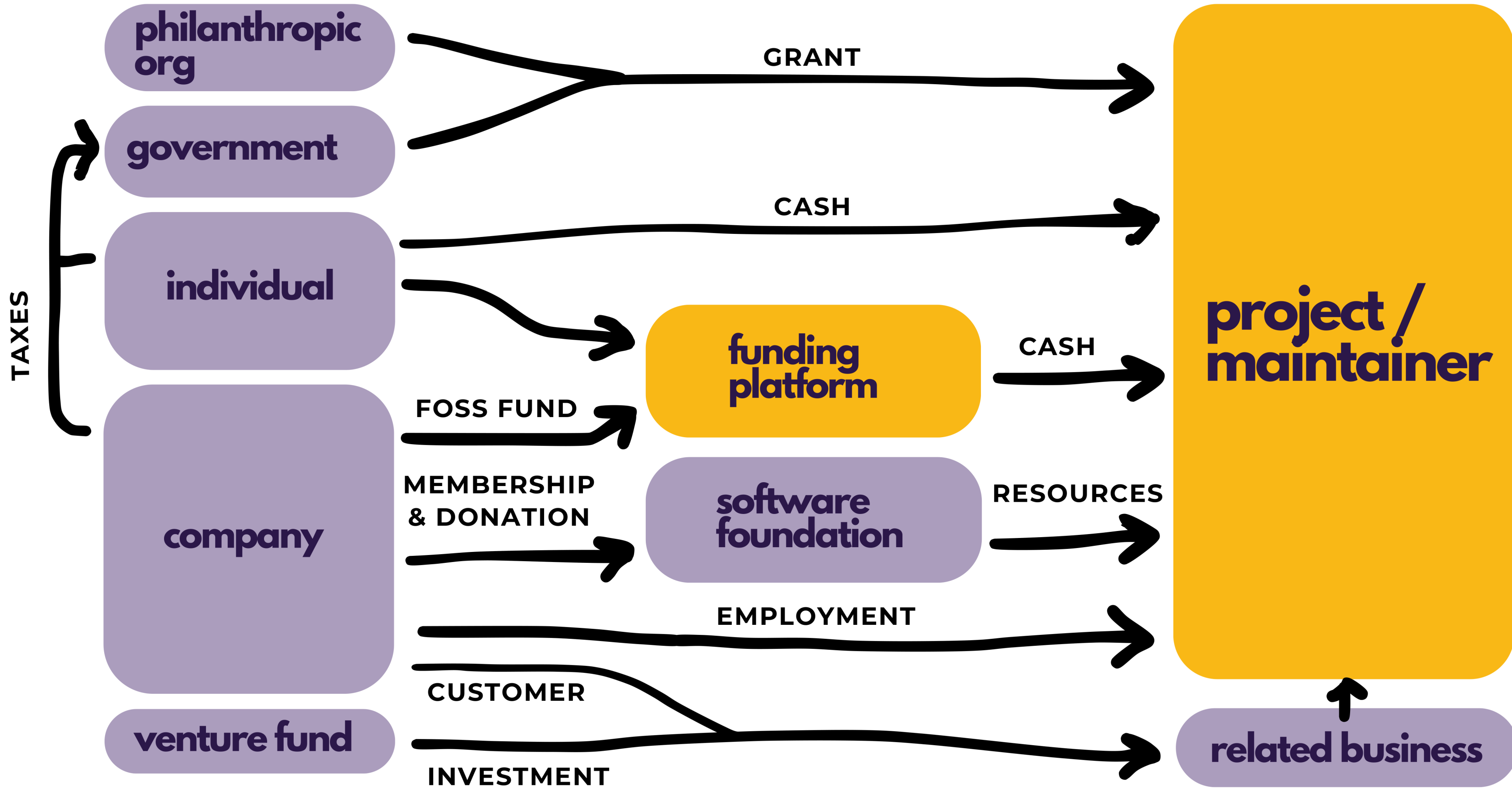
01

FUNDING PLATFORMS

what are funding platforms?

funding platforms - enable payments to FOSS projects and maintainers, and are widely used both by individuals and companies

funding platforms specialties

dependency funding	thanks.dev	stackaid
one-time crowdfunding	Kickstarter	
ongoing crowdfunding	Patreon	
tipping platform	Buy me a coffee	
recurring income	Liberapay	
direct tips	paypal, venmo	

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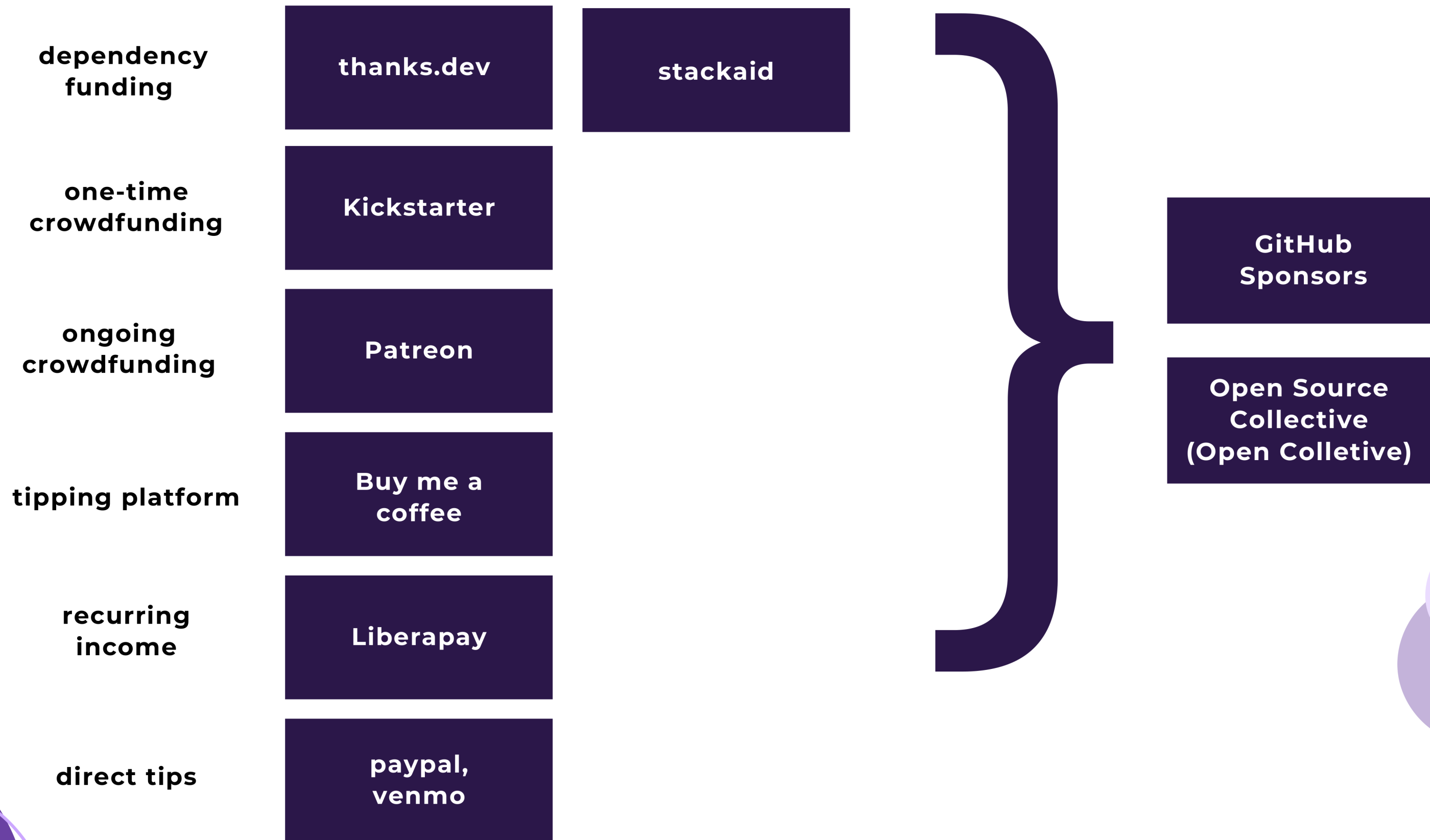
Buy me a coffee

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}

GitHub Sponsors

Open Source Collective (Open Colletive)

more
funding platform models

subscription
model

Tidelift

service
marketplace

OpenTeams

quadratic
funding

GitCoin

GitHub Sponsors

$40M since 2019

Open Source Collective

$40M since 2019

$10 million in 2023

GitHub Sponsors platform growth

2020 2021 2022 2023

Funding platforms **lower the barrier for sponsorships,** and bring crucial revenue to maintainers.

FOSS CONTRIBUTOR FUNDS

what's a FOSS Contributor Fund?

The FOSS Contributor Fund is **a framework for selecting open source projects that a company supports financially**. This initiative is designed to encourage open source participation and help companies take an active role in sustaining the projects they depend on.
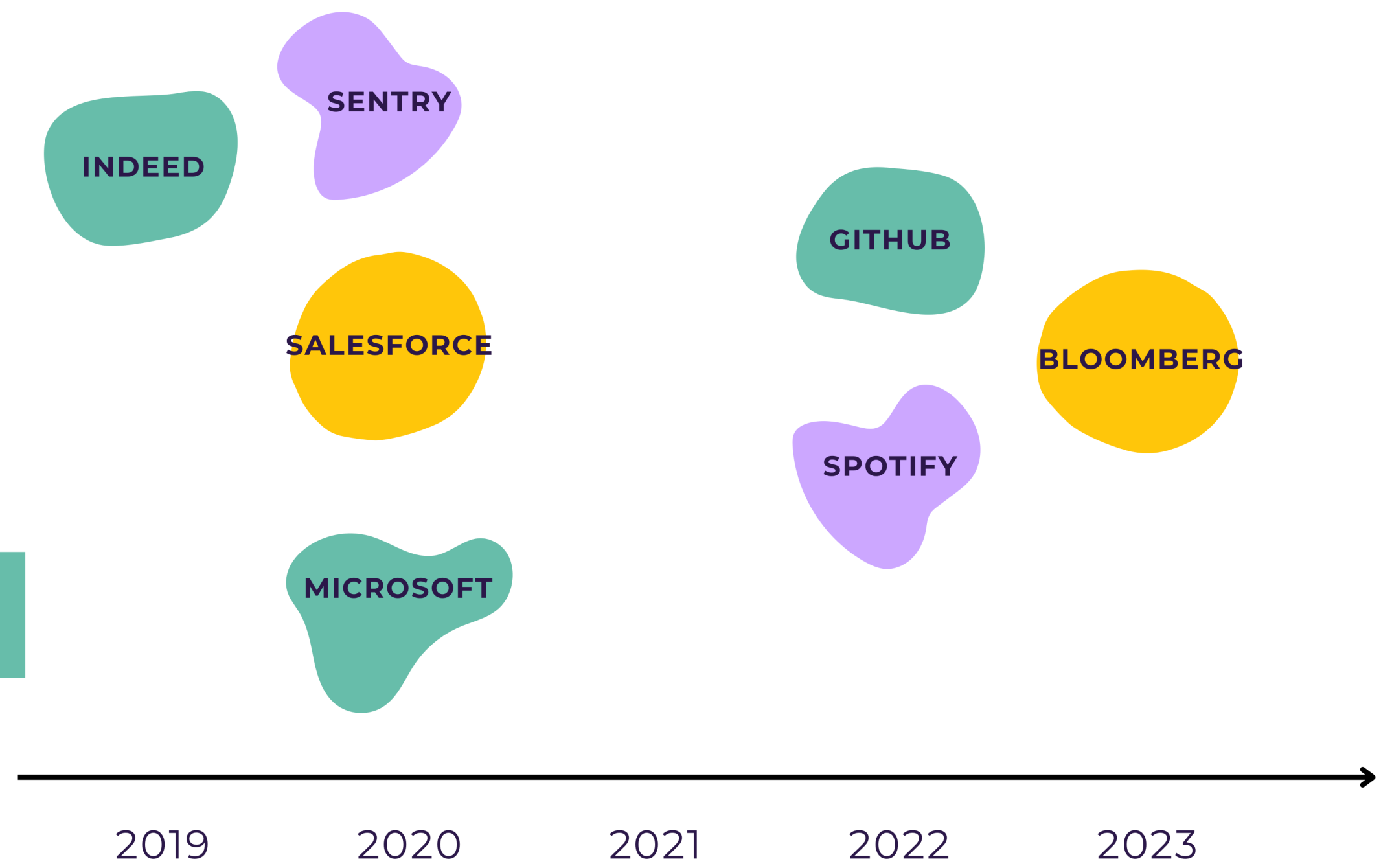
- github.com/indeeng/FOSS-Contributor-Fund

what's a FOSS Contributor Fund?

'FOSS Fund', colloquial -- any instance of **a company funding open source projects**, usually their dependencies, in a semi-organized way, without expecting anything concrete in return.
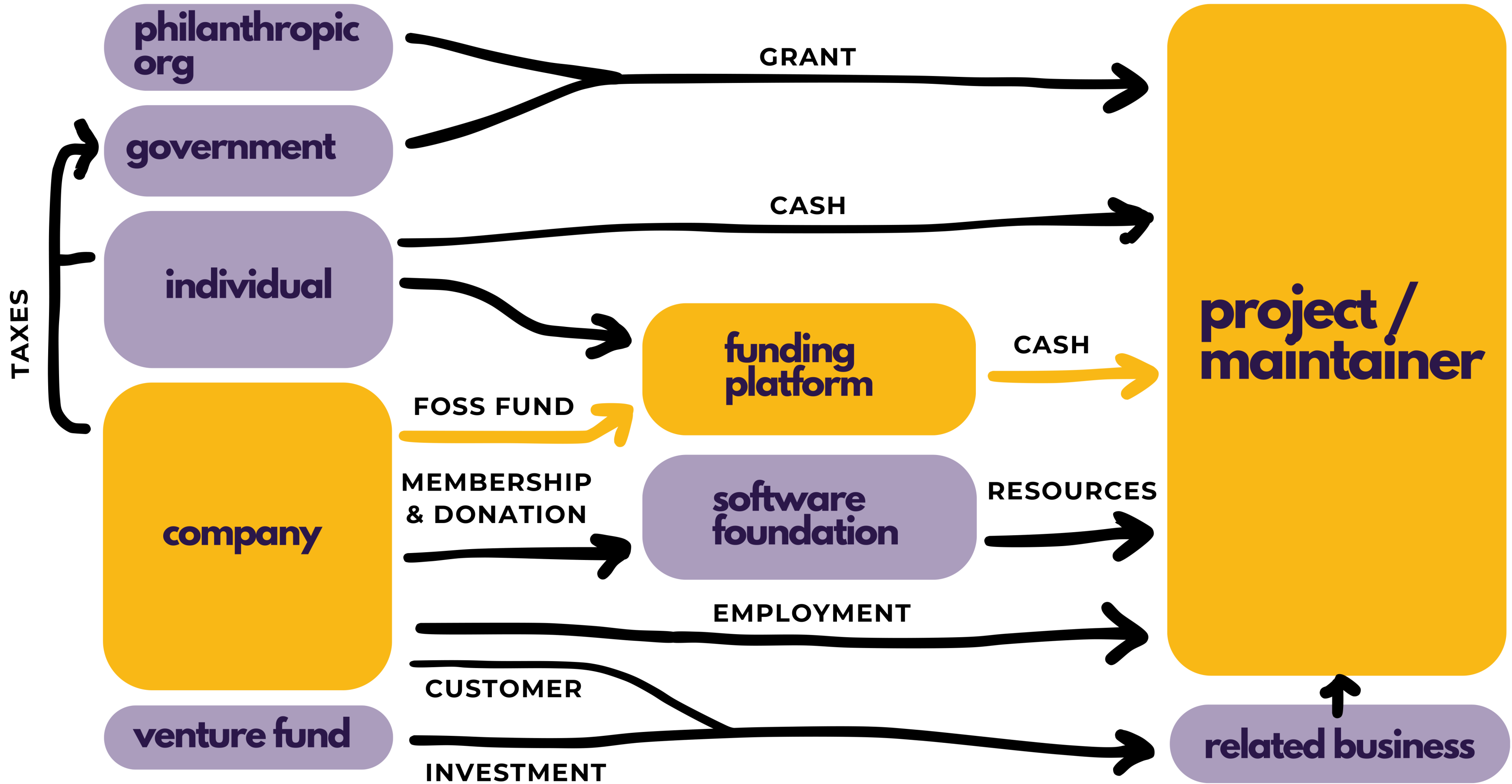
FOSS Funds: how much?

$12 million

passing from companies directly to FOSS projects in 2023 (approximate)

MOST:
SENTRY
$500K

A FEW EXAMPLES

Company	2023
Sentry	500,000
Bloomberg	120,000
Spotify	109,000
Vercel	60,000
Frontend Masters	50,000
Salesforce	40,000
Zeiss	16,000

FOSS Contributor Fund patterns

FOSS Funds are substantially benefiting maintainers, but it's not proving to be a sustainable single model for the ecosystem.

- FOSS Funds for the most part are not contributing to stable, predictable funding for projects.

- Expecting companies to fund open source for the positive press is a failed path.

- FOSS Funds are particularly vulnerable to (real or imaginary) "macroeconomic conditions"

- FOSS Funds are not a focus for OSPOS.

- Two strategies for distribution of money: large sums to a few projects, or spreading over dependencies.

- Companies sharing funding structures has paid off.

strengthening the FOSS Fund model

- **Data:** Improve data for identifying a company's dependencies at the deepest levels, to distribute funding without relying on project charisma. [1]

- **Data:** improve data on the benefits the funders receive from sponsoring projects.

- **Awareness:** More companies committing to this model publicly.

fossfunders.com

- **Tooling:** Lower administrative cost of bulk funding.

" **THE FACTOR THAT MOST AFFECTS SPONSORSHIP IS THE DEVELOPER'S SOCIAL STATUS IN THE COMMUNITY** "

- [1] Who, What, Why and How? Towards the Monetary Incentive in Crowd Collaboration: A Case Study of Github's Sponsor Mechanism, 2021
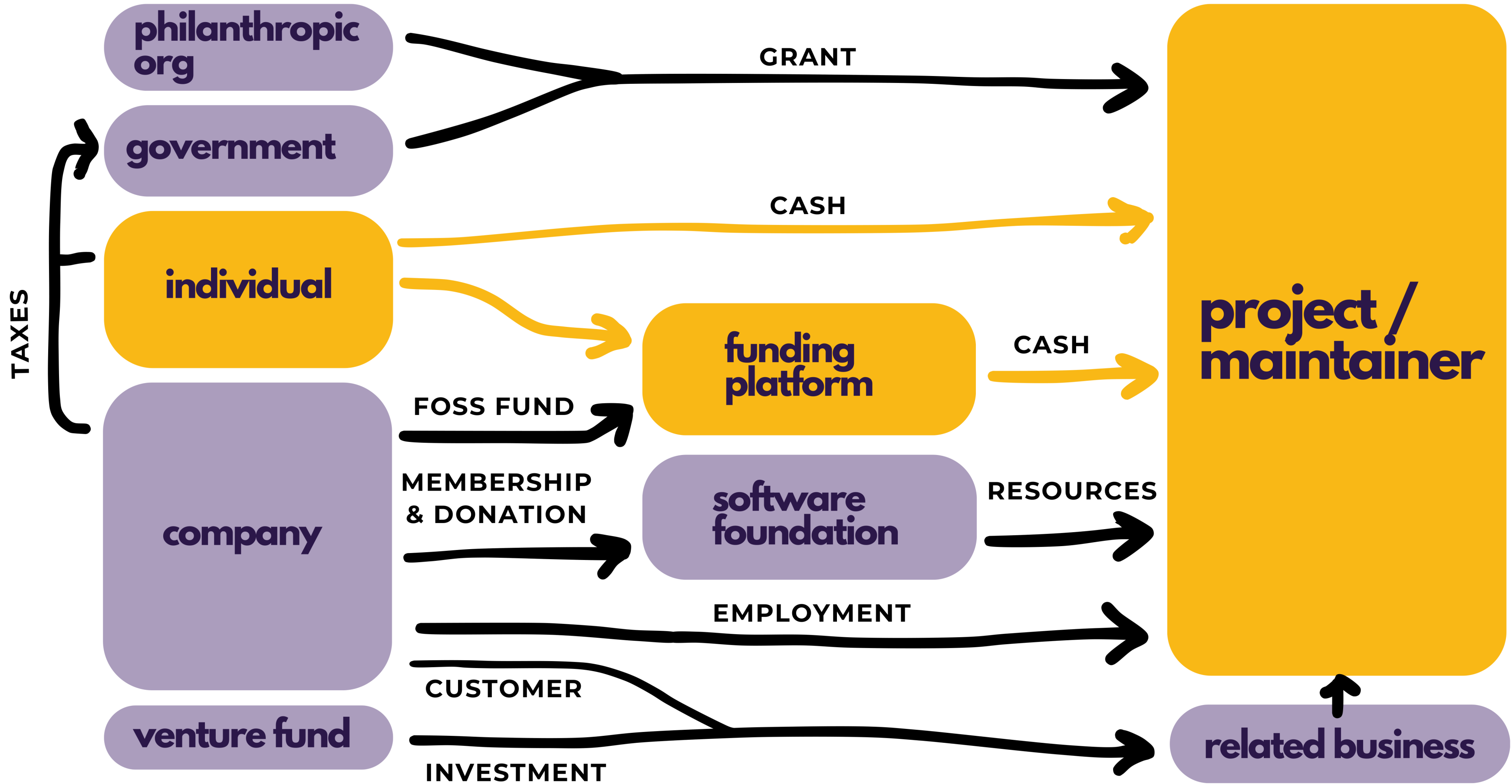
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INDIVIDUAL SPONSORSHIPS

what are individual sponsorships?

individual sponsorships encompass money flowing directly from users to FOSS projects and maintainers

individual sponsorship patterns

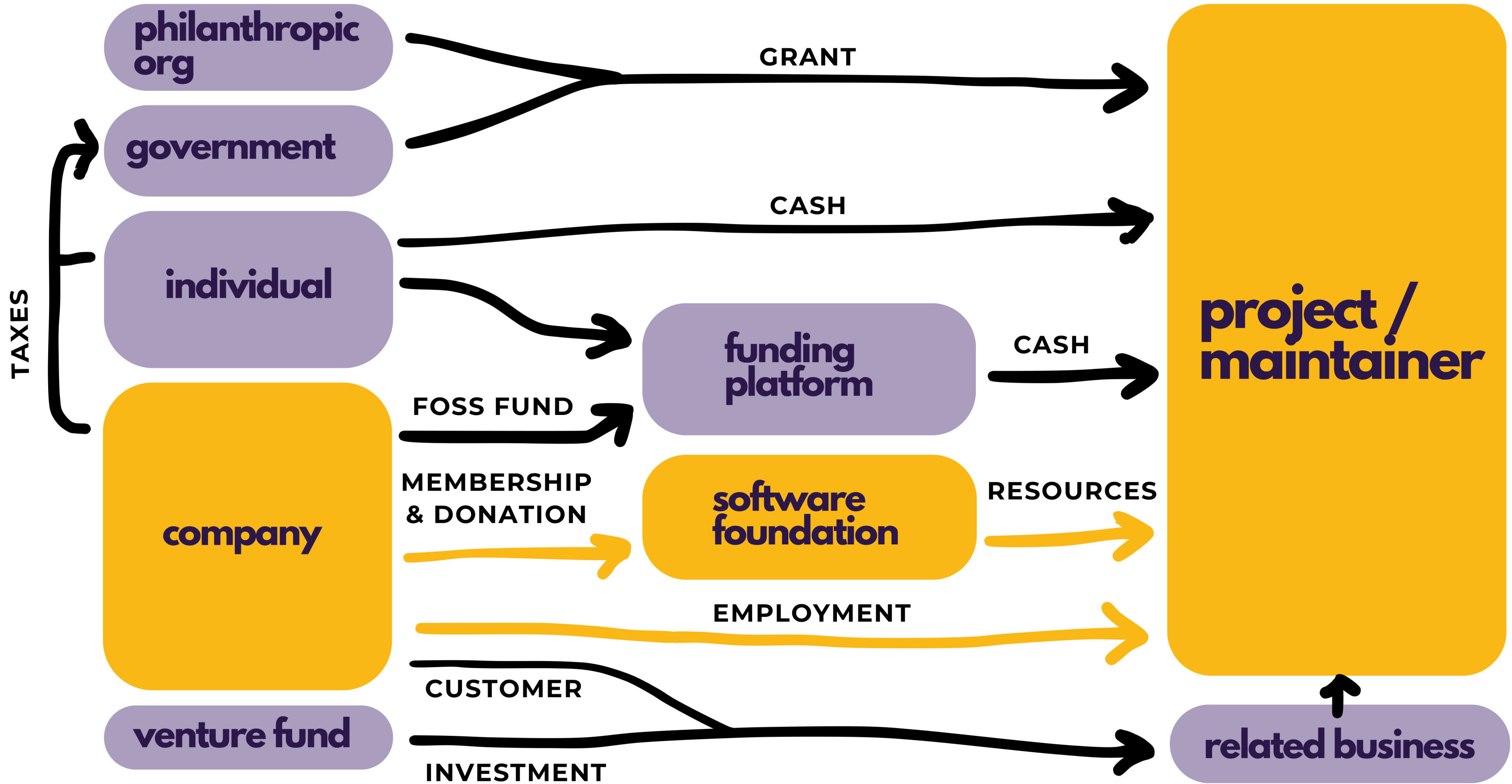**60%** of GitHub Sponsors funding is from individuals (2022)

- **Across funding platforms, individuals are signifigantly out-performing company FOSS Funds,** opening their hearts & wallets. But we can't - and shouldn't - entrust the bulk of the cost of FOSS maintenance to individual goodwill.

- Software users truly do want to support maintainers, and even if it's a small amount from each person, it adds up.

- Ongoing sponsorships from individuals have proven to be **more resilient** to economic downturns - and fickle corporate budgets.

FOUNDATION MEMBERSHIP

okay, so where *is* the money?

The most common method of funding open source projects is **joining (or starting) a foundation**, an organization that can take care of fundraising, legal needs, corporate relationships, and more.

how much money are foundations bringing in?

Foundation name	Total revenue 2022
Linux Foundation	177,000,000
Mozilla Foundation	49,700,000
Signal Foundation	26,100,000
NumFocus, Inc.	9,290,000
Eclipse Foundation	7,900,000
Open Infrastructure Foundation	6,630,000
Software Freedom Conservancy	4,360,000
Python Software Foundation	3,860,000
Drupal Association	3,550,000
OASIS Open	3,200,000
Apache Software Foundation	1,770,000
Ruby Central	1,540,000
Free Software Foundation, Inc.	1,350,000
FreeBSD Foundation	1,010,000
Raspberry Pi Foundation	919,000
Rails Foundation	900,000
Software Freedom Law Center	834,000
LLVM Foundation	806,000
Open Source Initiative	740,000
Software in the Public Interest	485,000
.NET Foundation	435,000
GNOME Foundation	363,000
Openstreetmap	326,000
Haskell-org Inc.	281,000
Django Software Foundation	268,000
Linux Kernel Organization	137,000
Internet Systems Consortium, Inc.	136,000
Plone Foundation	84,800
Yet Another Society, (DBA) The Perl .	76,500
The NetBSD Foundation, Inc.	44,800
Open Source Geospatial Foundation	28,000
WordPress Foundation	23,700

$304 million US dollars revenue across 32 software foundations in 2022

*excluding Wikimedia Foundation

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$304 million US dollars revenue across 32 software foundations in 2022

Linux Foundation

$177 million in 2022 revenue

New: $262 million in 2023 !

Everything that isn't the Linux Foundation

$127 million in 2022 revenue

58% of the revenue across top open source software foundations* in 2022 went to the Linux Foundation.

*excluding Wikimedia Foundation

how foundations support projects

- Legal and financial services
- Project governance
- Hosting services
- Marketing and advocacy
- Security audits
- Travel to events and meetings
& more

foundations paying $ for project maintenance is rare

the "professional maintainer"

"**Among critical open source projects, the majority of maintainers and core contributors enjoy full-time employment**."

 - LF Research, Open Source Maintainer Report, 2023

13% of maintainers are
professional maintainers

- Tidelift Maintainer Survey, 2023
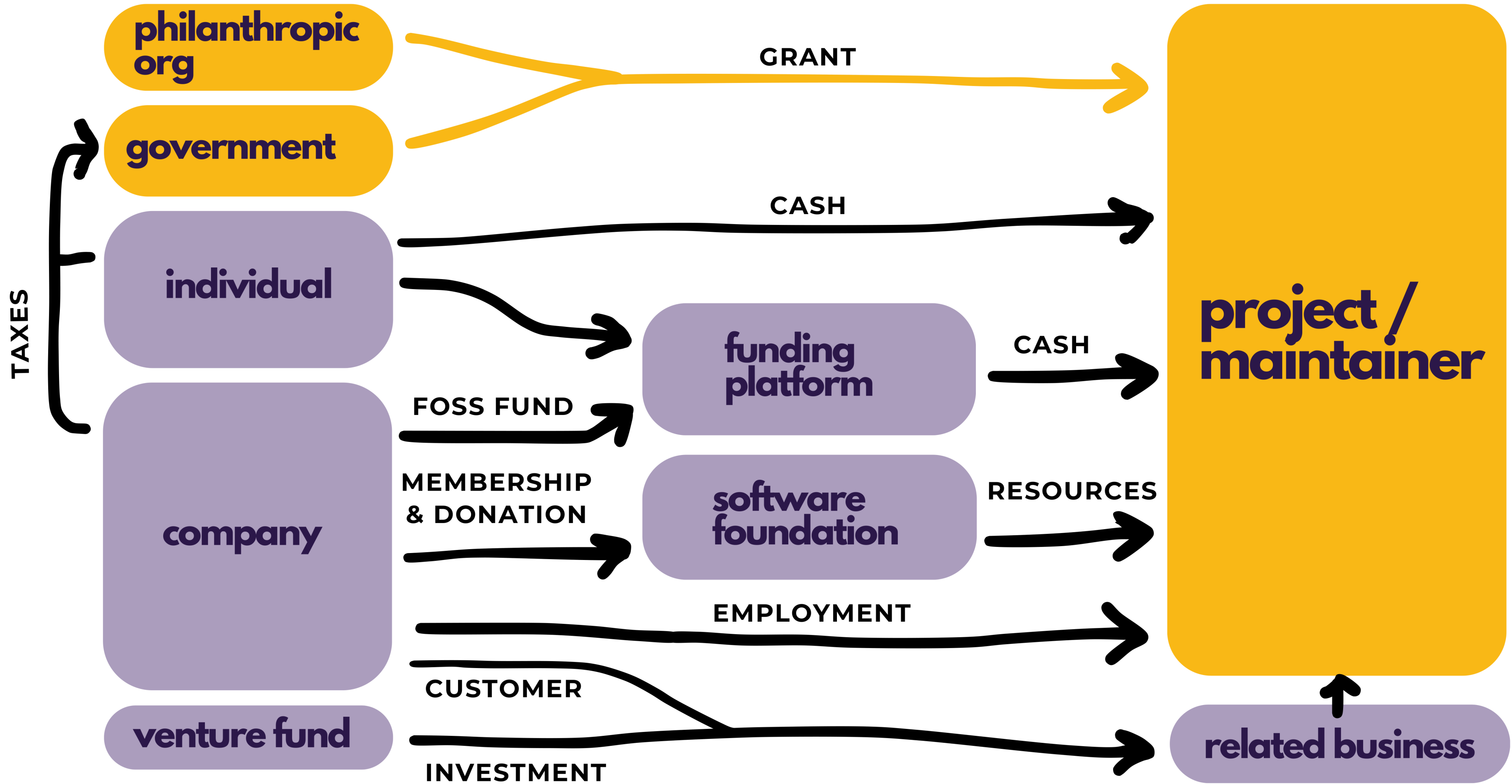
Foundation patterns

- **Most software foundations do not directly pay for project maintenance.** Being a 'professional maintainer' that is employed or contracted by a foundation is rare.

- **Foundations focus on removing the overheard of operating a project** - enabling maintainers and contributors to focus on the tech.

- **Foundations have a tight loop with the companies** who rely on their projects, because maintainers getting paid depends on it.

- **Foundations make donating to open source easy for companies.** Giving a large lump sum to a foundation is vastly simpler than trying to fund a variety of independent projects.

GRANT & GOVERNMENT FUNDING

grants

1-time funding agreement based on a proposal to do a specific piece of work, usually via a governemental agency or a philanthropy.

Sovereign Tech Fund

THE SOVEREIGN TECH FUND – BASICS

Funding amount per project	€50,000–500,000
Project duration	6–24 months
Projects per year	Approximately 30
Financial volume (in total)	Approximately €10 million per year
Additional support	Coaching, audits, consulting, etc.
Funding recipients	Few or no restrictions

195
critical technologies worthy
of investment identified

40
technologies supported
since October 2022

15.25
m € invested in commissioned work

SCOUTING

Pull mechanism: active identification of projects by means of a list of criteria, quantitative methods and expert advice
Push mechanism: open application process (ongoing)

MATCHING

At the core of the STF lies the innovative analysis and matching mechanism:

- A central database for eligible software components will be established
- Suitable implementation partners are sought in collaboration with industry and civil society

These goals are achieved with the matching mechanism:

- Better fit of the funding
- Higher sustainability of the funding
- Involvement of industry and civil society in the funding process

FUNDING

Removing barriers to entry and promoting agile
Consulting and support
Evaluation and feedback loops

grant funding patterns

Governments are starting to step in to support critical open source software maintenance.

"THERE IS A CLEAR NEED FOR A EUROPEAN FUNDING MECHANISM TO HELP SUSTAIN CRITICAL OPEN SOURCE SOFTWARE COMMUNITIES"

- European Commission's 'Development of a Funding Mechanism for Sustaining Open Source Software', 2022

SCIENTIFIC SOFTWARE FUNDING

- **There is a limited understanding of grant funding opportunities outside of the academic and scientific software space.**

- **Agencies (like NSF and NASA) are looking to advance software with an academic or research relationship.** Because these grants want fresh advancements, tools that scientists depend on struggle to access maintenance funding.

- **Philanthropies (like Moore, Sloan, CZI) also prefer to fund new things rather than maintenance.**
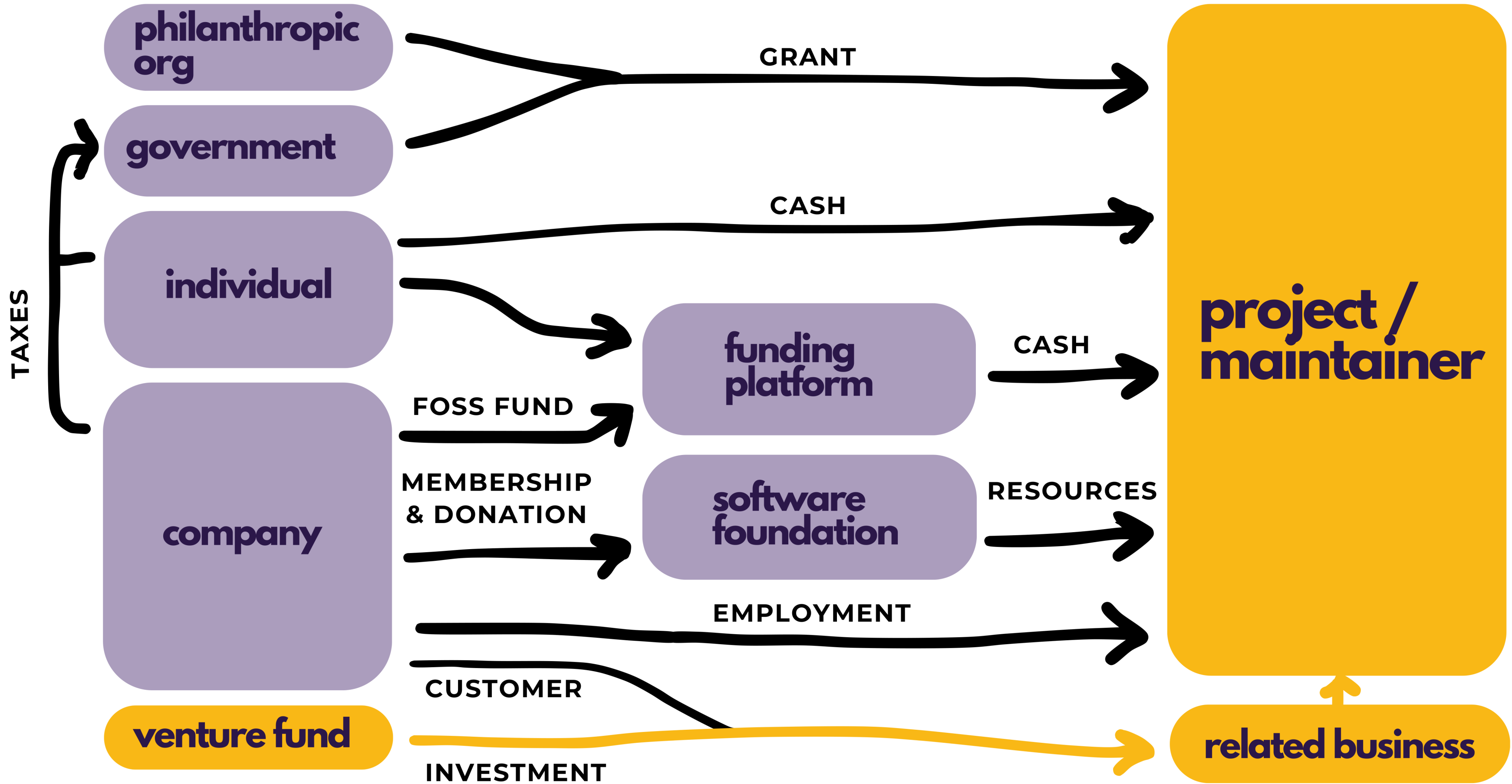
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VENTURE FUNDING

what's venture capital?

VC IS PRIVATE FINANCING PROVIDED TO NEW AND UNPROVEN COMPANIES IN EXCHANGE FOR AN OWNERSHIP STAKE OR EQUITY, HOPING TO MAKE THEIR MONEY BACK MANY-FOLD ON A HIGH-GROWTH BUSINESS

philanthropic org

government

individual

company

venture fund

TAXES

GRANT

CASH

FOSS FUND

funding platform

CASH

MEMBERSHIP & DONATION

software foundation

RESOURCES

EMPLOYMENT

CUSTOMER

INVESTMENT

project / maintainer

related business

VC funding patterns

- **Investment in COSS / open core businesses is increasing** [1]. Founders need to work with VCs who understand the peculiarities and strengths of open source

- **We need more materials that help maintainers determine what kind of funding is a good match for them** - personally & for their project.

THE COSS CATEGORY HAS GROWN DRAMATICALLY OVER THE LAST DECADE, FROM $10B TO $500B+ TODAY [...] EVEN SO, WE ARE STILL IN THE EARLY STAGES OF COSS, WHICH WE BELIEVE WILL GROW INTO A $3 TRILLION DOLLAR CATEGORY BY 2030

- [1] OSSCapitol's COSS VC Funding Report, August 2022

GitHub Accelerator

2023

20	**open source projects**
$20k	**funding per project**
10	**week program**

There's no one-size-fits-all approach to open source funding.

Maintainers need better education on available funding paths.

We need Accelerators that don't require all projects to be startups.

Barriers independent FOSS Maintainers Face

Learnings from GitHub Accelerator 2023

- **Understanding of business models:** information on the pros and cons of different funding paths are limited, and make it hard for maintainers to find the approach that fits their needs.

- **Maintainer care:** many projects are solo-maintained. Limited resources and high demand leads to maintainer burnout.

- **Community perception:** the expectation that maintainers work on their projects full-time, while sometimes shaming maintainers for needing money, is painful.

- **Legal guidance:** projects need legal advice tailored to the intricacies of open source.

- **Sustainability mentorship:** personal mentorship from folks who have taken similar funding paths is needed.

- **Measuring impact:** maintainers need ways to measure the impact of their software, find what companies are using it, and identify who to reach out to about sponsorships.

- **Financial advice:** fiscal management and accounting require industry-specific expertise and advice.

experiment in funding:
pay maintainers to speak to your team

Makes use of underutilized company training and consulting budgets

Time-boxed commitment from maintainer

Internal team gets to speak to the expert behind the software they're using

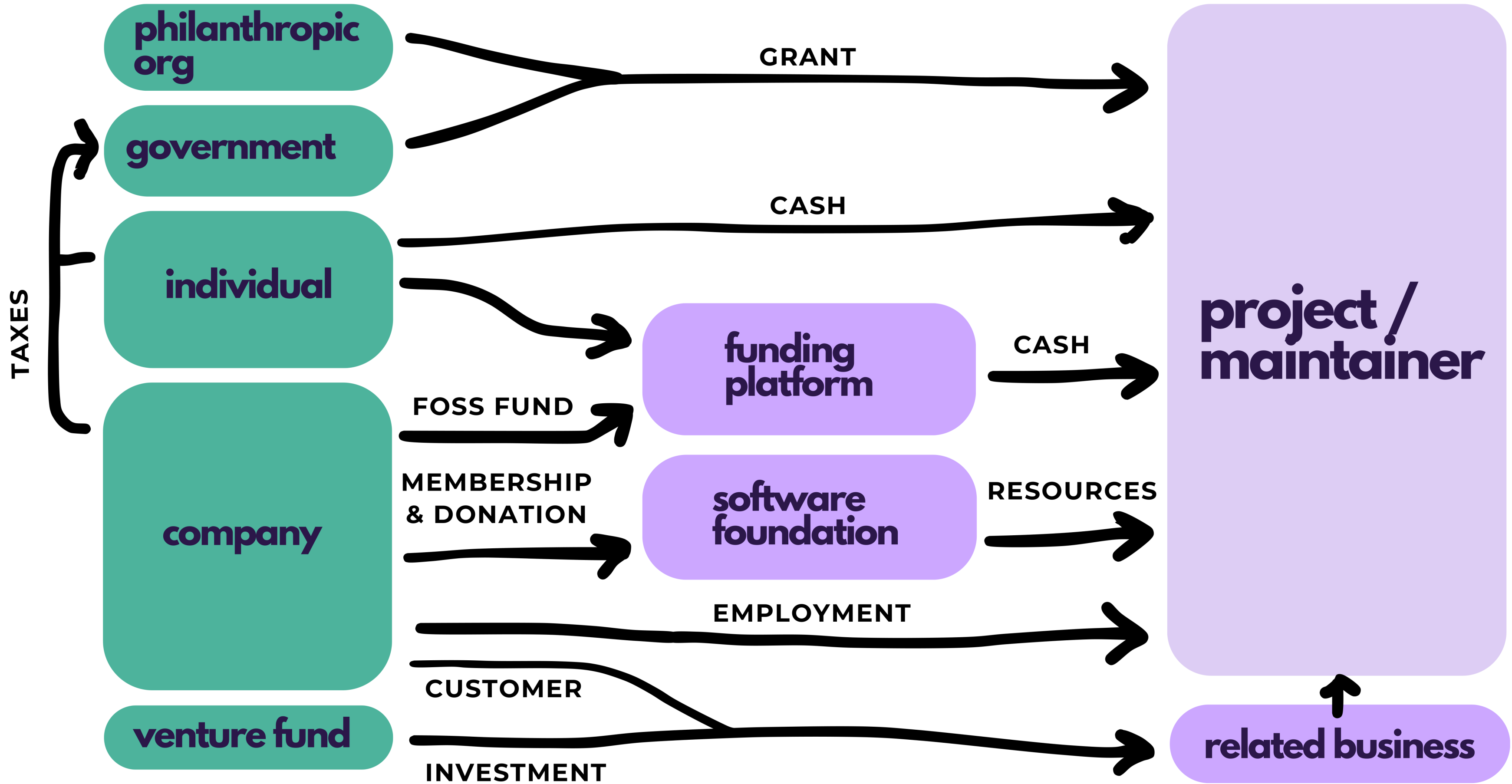Financially supports the project that company depends on

SIMON WILLISON, DATASETTE

see also Filippo Valsorda's experiment with retainer agreements for full-time maintainers, including an expert advice tier.

PUTTING IT ALL TOGETHER

money flow to FOSS maintainers

philanthropic org

government

individual

company

venture fund

TAXES

GRANT

CASH

FOSS FUND

MEMBERSHIP & DONATION

EMPLOYMENT

CUSTOMER

INVESTMENT

funding platform

software foundation

CASH

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project / maintainer

related business

KARA SOWLES, FOSDEM 2024

Conclusions

- Open source is still being funded for only a small portion of its value - and most companies won't step up voluntarily.

- While all companies rely on open source, little funding is trickling down, and even less of that is making it to maintainers.

- Most maintainers are unable to financially support their work unless companies choose to hire them for it.

- Current funding structures are focused on new features - not maintenance.

- Our current system isn't sustainable. We need better models for supporting open source maintenance.

- Government funds aimed at critical software maintenance are a promising development.

Missions & What's Next...

- **We need more data in order to see what works - and what doesn't.** Can your org do a survey, or release trends you see in your internal data?

- **We need more companies publicly committing to funding.** Can your company do this? Also consider joining an advocacy group like FOSS Funders.

- **2023 was a reminder that corporate budgets and priorities are fickle,** and any funding plan needs to take this into consideration. How do we make it harder to cut open source funding?

- **Maintainers need more resources - and mentorship - to decide how to sustain their projects**, and to understand the upsides and downsides of each approach.

- **We should do what we can to advocate for goverment funding,** and raise awareness of successful taxpayer-funded programs like the Soverign Tech Fund.

- **How do we get this conversation out of the echo chamber and into the broader ecosystem?**

The State of Free & Open Source Funding

FOSDEM 2024

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@feynudibranch everywhere else

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