

# **Software patents and developer motivation**

## **Some thoughts from my PhD**

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?

“I think the availability of software patents does affect the motivation of a FOSS developer.”

Y(es) | N(o) | C(ancel) > \_\_

SWP proponents would say...

SWP work just like (all) other patents.

FOSS is not special (enough).

They expect positive effects on motivation.

SWP opponents would say...

SWP do not 'work'.

SWP are not needed, but can do harm.

They expect negative effects on motivation.

But what are we talking about?

motivation

Researchers identified 8+8 motivational factors.

Table 1: Extrinsic motivations

Rewards (instant)	Incentives (delayed)
Learning of new skills (Ye and Kishida, 2003; von Krogh et al., 2003; Lakhani and Wolf, 2005)	Expecting others to give back, reciprocity (Raymond, 2001)
Helping yourself by developing own solutions (Weber, 2004; Lerner and Tirole, 2004; Raymond, 2001; von Hippel, 2005)	Peer recognition, reputation (Dalle and David, 2005; Lerner and Tirole, 2001; Hars and Ou, 2002)
Low sharing costs compared to return of code shared by others (Kollock, 1999; Ghosh, 1998; Bonaccorsi and Rossi, 2003)	[M] Future career benefits through self-marketing (Lerner and Tirole, 2004; Hars and Ou, 2002)
[M] Direct monetary reward, income (Zeitlyn, 2003; Feller and Fitzgerald, 2002)	Fighting proprietary software, the ‘joint enemy’ (Weber, 2004)

Table 2: Intrinsic motivation – Developing FOSS as an end in itself

<b>Enjoyment-based factors</b>	<b>Obligation-based factors</b>
Fun, hedonism (Torvalds and Diamond, 2002; Hars and Ou, 2002; Lakhani and Wolf, 2005)	Identification and sense of community (Hars and Ou, 2002; Weber, 2004)
Self-expression, ‘coding as art’ (Weber, 2004)	Observance of community norms like, e.g., sharing (Zeitlyn, 2003)
Helping others, altruism (Hars and Ou, 2002; Bitzer et al., 2004; Zeitlyn, 2003)	Political mission, ‘software must be free’ (Stallman, 1984; Raymond, 2001)
Ego-boosting through solving difficult problems, challenge (Weber, 2004)	How one is viewed by significant others, e.g. family, friends (Hertel et al., 2003)

That's a lot of motivation...

But which factors are affected by SWP? And how?

And... what if a developer holds own SWP?

Homework: Create 2x2x16 matrix and think deeply about each cell...

I selected 5 factors & formulated 5 expectations:

2 for proponents,

2 for opponents,

1 for “undecided people”.

## Proponents

- 1) SWP affect MONEY positively.
- 2) SWP affect SKILLS positively.

## Opponents

- 3) SWP affect JOY negatively.
- 4) SWP affect SELF-EXPRESSION negatively.

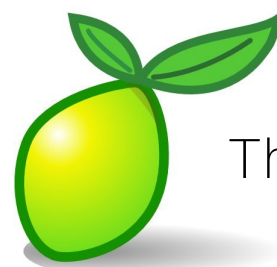
## Undecided

- 5) SWP affect SW-FREEDOM. Somehow.

To find answers for the 5 expectations...

I asked many developers (project leaders) from SourceForge “a few questions” about SWP experiences in their projects.

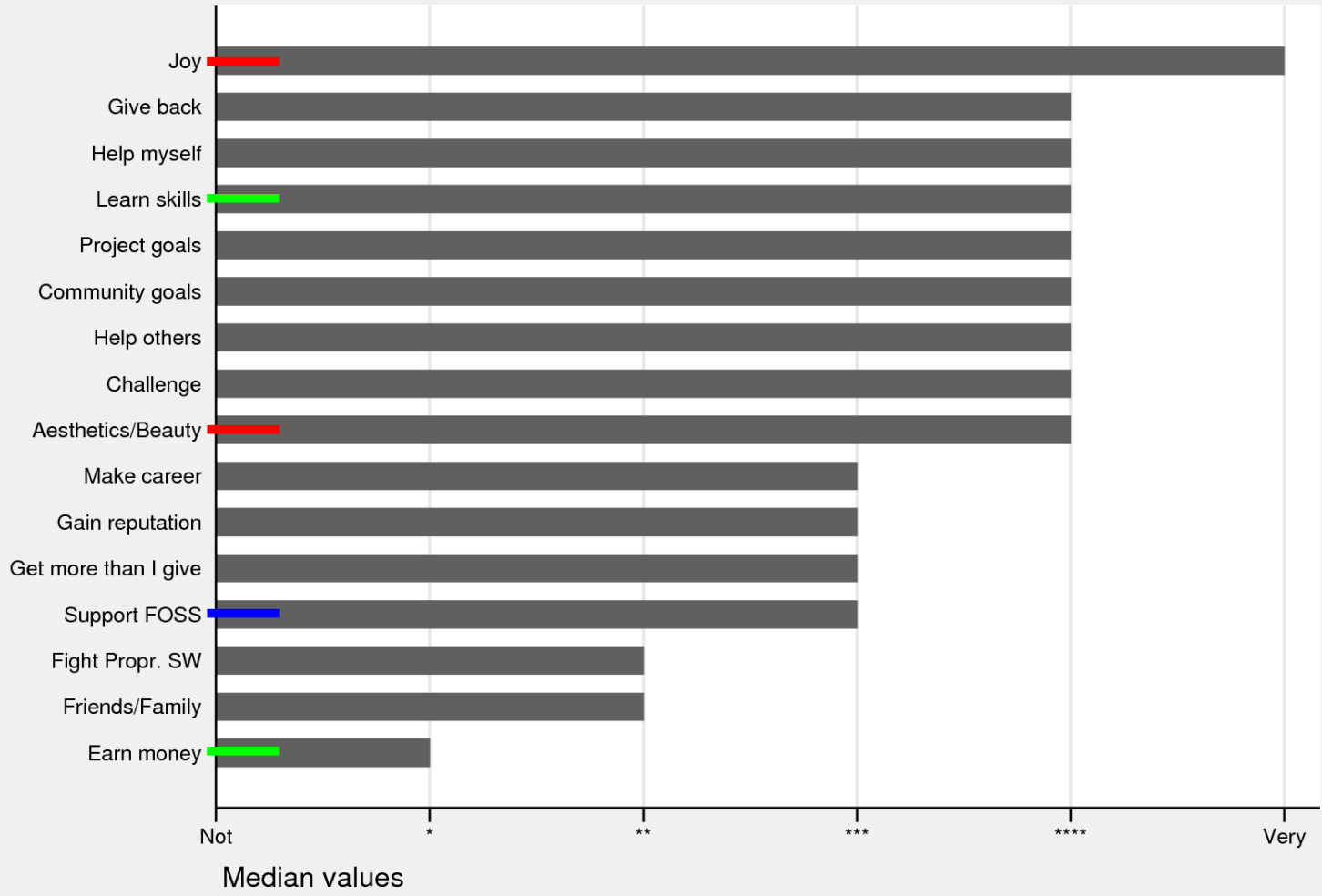
2441 responded. Thank you!



Thx2LimeSurvey!

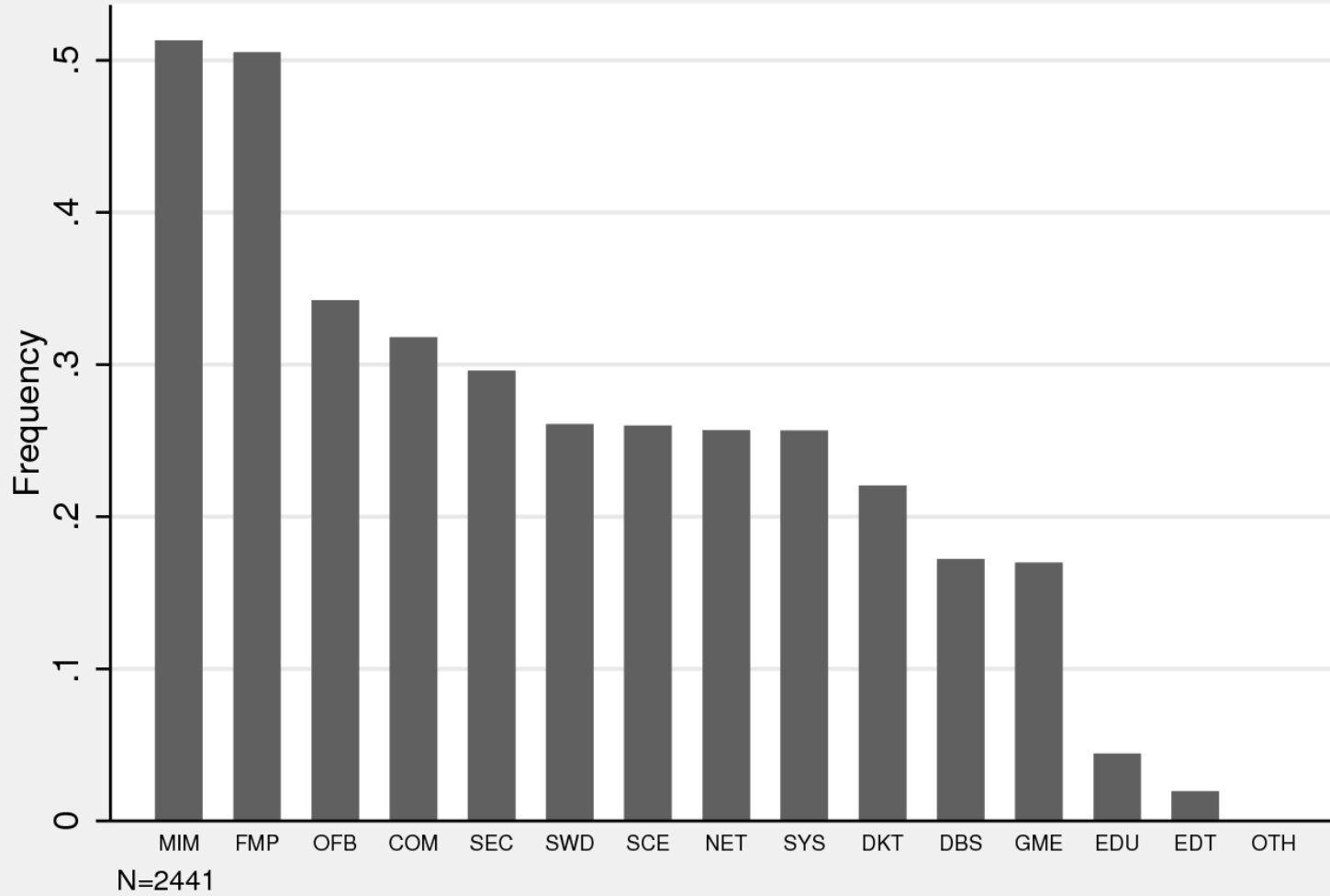
Some results

# Importance of different motivation factors



ProponentsOpponentsUndecided

### Patent pressure (perception)



1.6%

SWP incidents are (very) rare events.

## Proponents

- 1) SWP affect MONEY positively.
- 2) SWP affect SKILLS positively.

- 1) Not confirmed. No correlation.
- 2) Not confirmed. No correlation.

No visible positive effects.

## Opponents

3) SWP affect JOY negatively.

4) SWP affect SELF-EXPRESSION negatively.

3) Not confirmed, correlates positively. (Hm.)

4) Not confirmed. No correlation.

No visible negative effects.

## Undecided

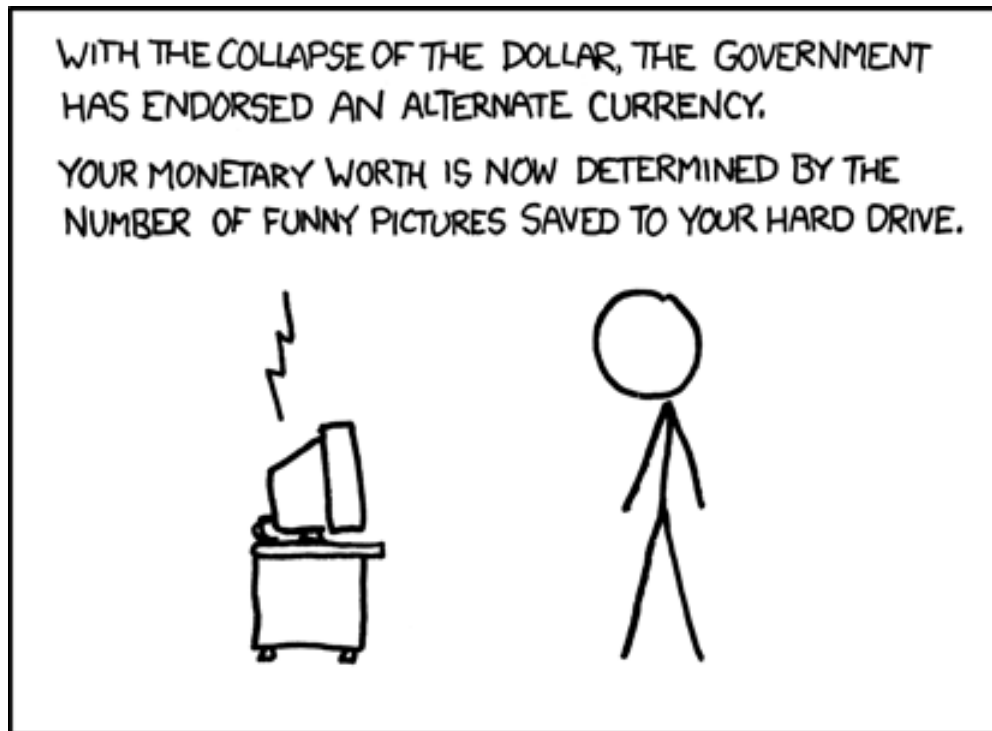
5) SWP affect SW-FREEDOM. Somehow.

5) Yes, confirmed.

Results show a significant negative effect.

One last interesting result...

# Income



I HAVE BEEN PREPARING FOR THIS MOMENT MY WHOLE LIFE.

Income plays a role for motivation...  
What role depends on motivation!

FOSS income has an effect on...

MONEY	(+)
JOY	(-)
SW FREEDOM	(-)

It's called "crowding out" effect.

## In one sentence

- 1) SWP availability & incidents do not play a significant role for motivation, except when motivated by “freeing software”. -- Neither support for proponents nor opponents position.
- 2) Effect of FOSS income not universally positive. Depends on motivation type.

Where from here?

FOSS is about motivation.

Patents are about innovation.

Do SWP affect FOSS innovation?

Homework: What is FOSS innovation, anyway?



Thanks!