

Free/Libre and Open Source Software

- Developer Survey -

Rishab Aiyer Ghosh

Rüdiger Glott

Bernhard Krieger

Gregorio Robles

International Institute of Infonomics, Maastricht

Structure

- **Purpose and Methodology**
- **Characteristics of F/LOSS Developers**
- **F/LOSS versus Closed Source Software**
- **Motivations of F/LOSS Developers**
- **Motivations of F/LOSS and Close Source Software Developers**
- **Motivations of High and Low Activity F/LOSS Developers**

Structure

- **Purpose and Methodology**
- **Characteristics of F/LOSS Developers**
- **F/LOSS versus Closed Source Software**
- **Motivations of F/LOSS Developers**
- **Motivations of F/LOSS and Close Source Software Developers**
- **Motivations of High and Low Activity F/LOSS Developers**

Purpose of the Developer Survey

- **Personal Features of F/LOSS Developers (socio-economic background, demographics)**
- **Work and Project Organisation**
- **Relation between Open Source and Free Software**
- **Relation to Closed Source Software**
- **Rewards (monetary and non-monetary)**
- **Motivations, Expectations, Orientations**

Methodology of Developer Survey

- **Global (random sample, web-based)**
- **~2800 responses, verified against software source code authorship**
- **Detailed questionnaire: 42 questions on demography, orientations, motivation, earning/ employment**

Structure

- Purpose and Methodology
- Characteristics of F/LOSS Developers
- F/LOSS versus Closed Source Software
- Motivations of F/LOSS Developers
- Motivations of F/LOSS and Close Source Software Developers
- Motivations of High and Low Activity F/LOSS Developers

Image of Software Developers in the Public

→ (According to Douglas Coupland's "Microserfs") **"Nerd"**:

- **Male**
- **Home- and Computer-sticking**
- **Only Interested in Software and ICT**
- **Earning relatively high incomes**
- **Only Software Developers / Engineers as Friends (most of them known by email)**
- **16-20 hours "working night" (enabled by Prozac)**
- **Single**

- **Free Software/Open Source: Students**

Evidence from F/LOSS Survey I

- **Gender:**
 - 98.9% male, 1.1% female
- **Age:**
 - Ranging from 14 to 73
 - 2/3 between 16 and 36
 - average age: 27.1 years
- **Starting Age**
 - Average: 22.9 years
 - 7% below 16 years, 2/3 between 16 and 25 years, and roughly 1/4 older than 25

Evidence from F/LOSS Survey II

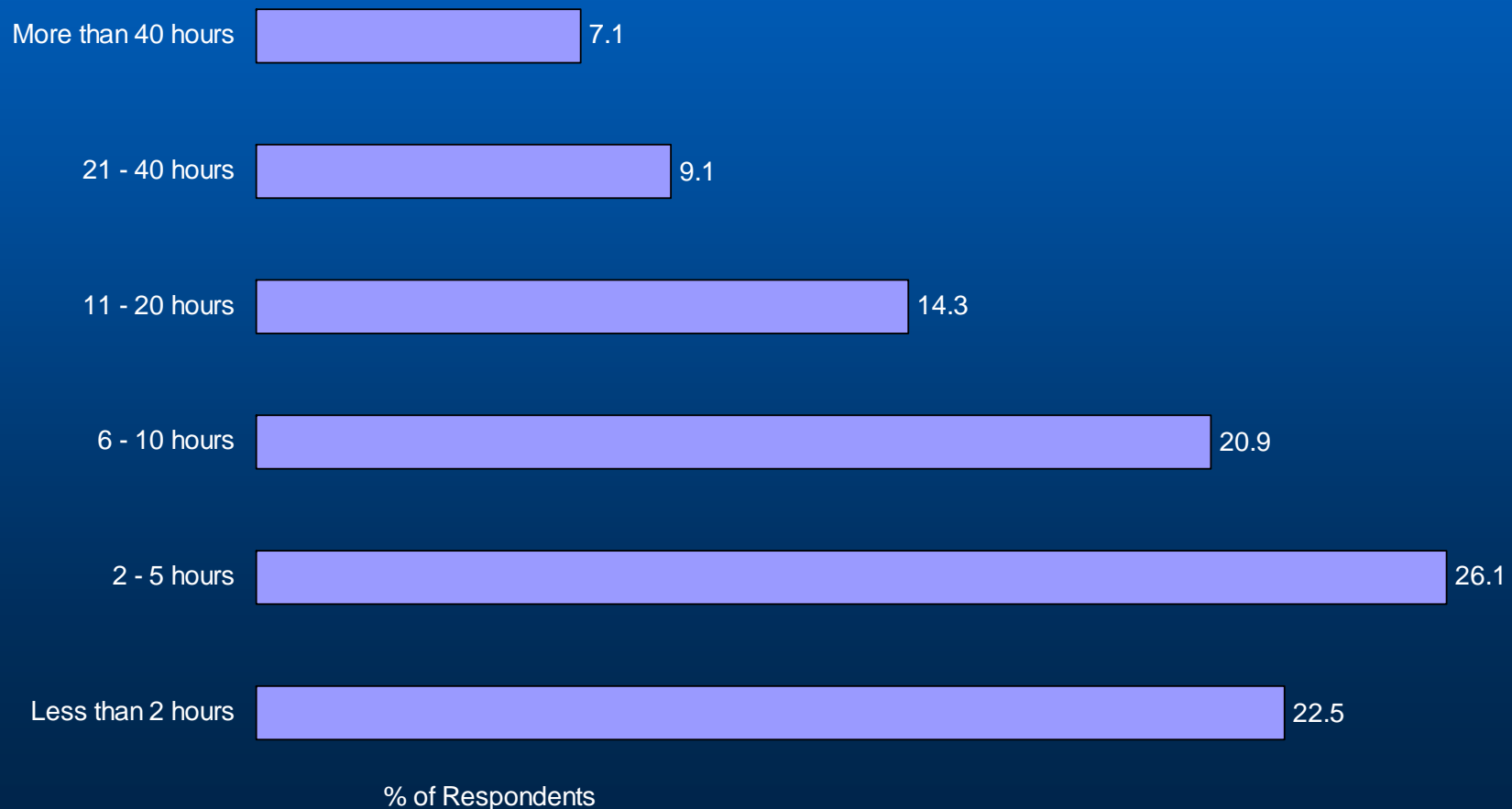
- **“Civil Status”:**
 - **Singles: 41%**
 - **Partner, not living together: 19%**
 - **Partner, living together: 19%**
 - **Married: 21%**
 - **Children: 17%**

Evidence from F/LOSS Survey III

- **Educational Background:**
 - Elementary School: 2%
 - Apprenticeship: 3%
 - A-Level / High School: 25%
 - University degree (61%)
 - PhD: 9%

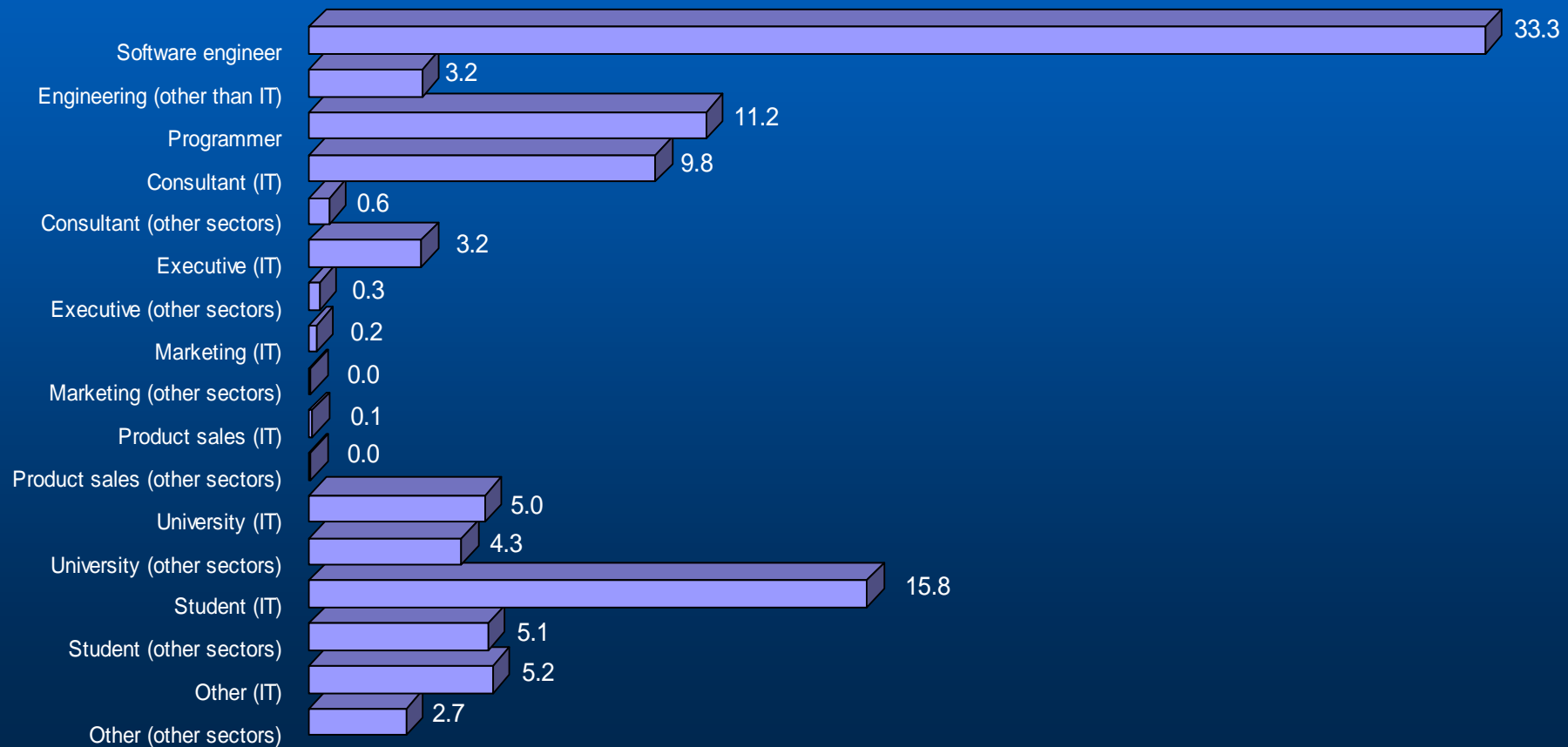
Evidence from F/LOSS Survey IV

- Hours of Work per Week Spent for F/LOSS:



Evidence from F/LOSS Survey V

● Professional Background:

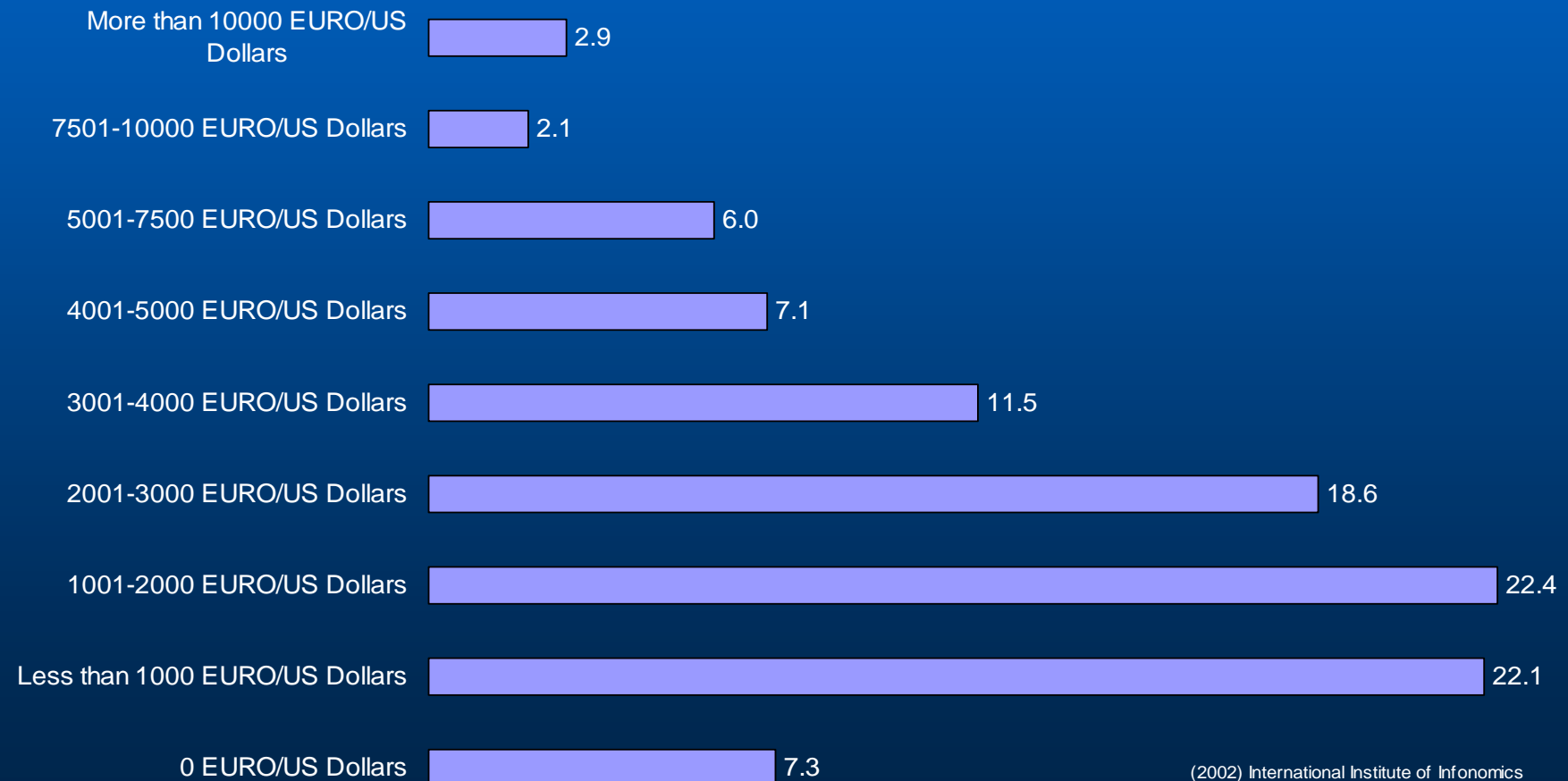


Evidence from F/LOSS Survey VI

- **Employment Status:**
 - **Employees: 65%**
 - **Self-employed: 14%**
 - **Students, no paid work 17%**
 - **Not working at the moment: 2%**
 - **Unemployed: 2%**

Evidence from F/LOSS Survey VII

● Monthly Gross Income:



Evidence from F/LOSS Survey VIII

- **Conclusions:**

- Young and male community
- High educational level
- Strong professional background in IT sector
- Students are second largest group
- 49% do not spend more than 5 hours/week
- Most are married or coupled
- Relatively high share of self-employed, very few unemployed
- High incomes are rather untypical

→ “Nerd”-image is definitely wrong

Structure

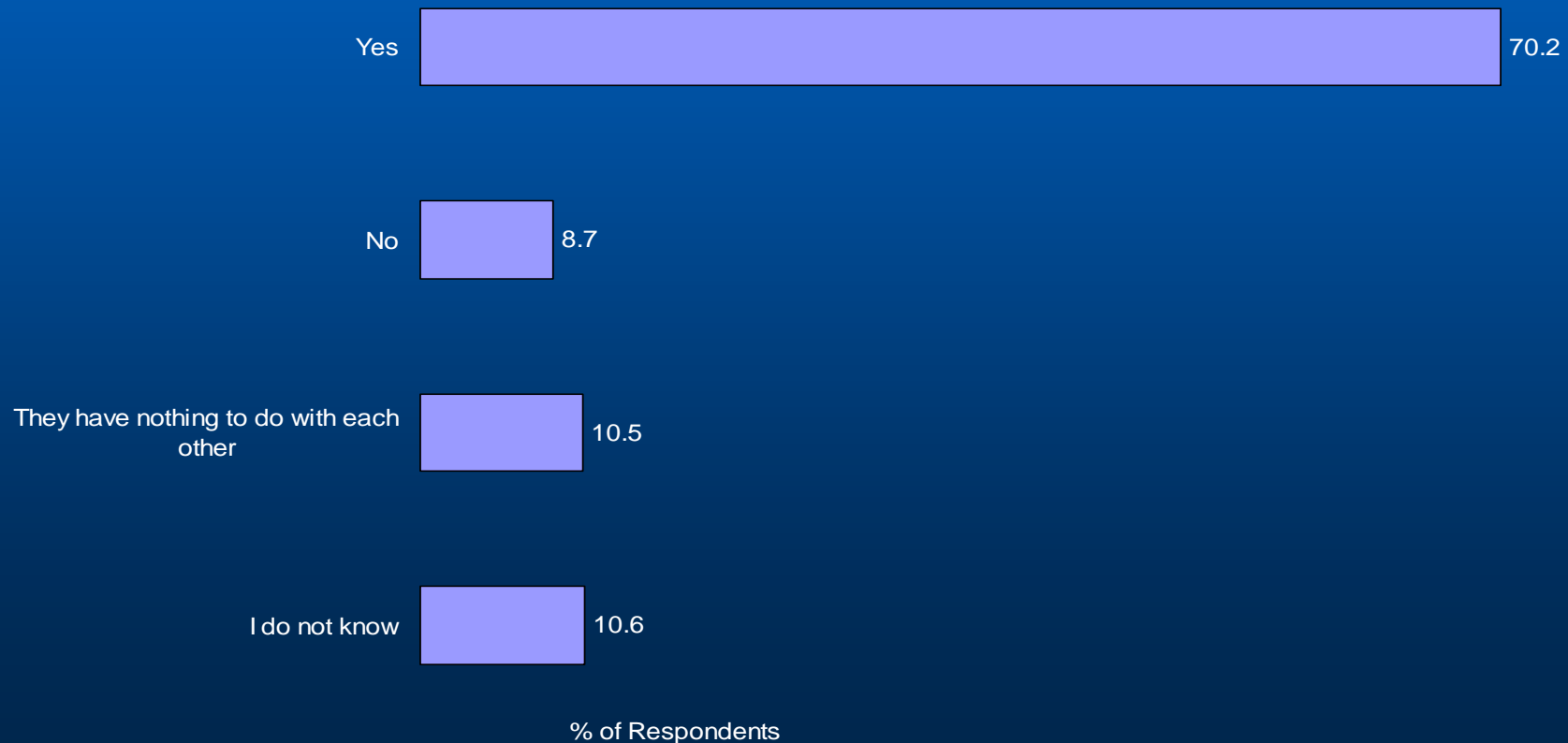
- Purpose and Methodology
- Characteristics of F/LOSS Developers
- F/LOSS versus Closed Source Software
- Motivations of F/LOSS Developers
- Motivations of F/LOSS and Close Source Software Developers
- Motivations of High and Low Activity F/LOSS Developers

F/LOSS and Closed Source Software Developers

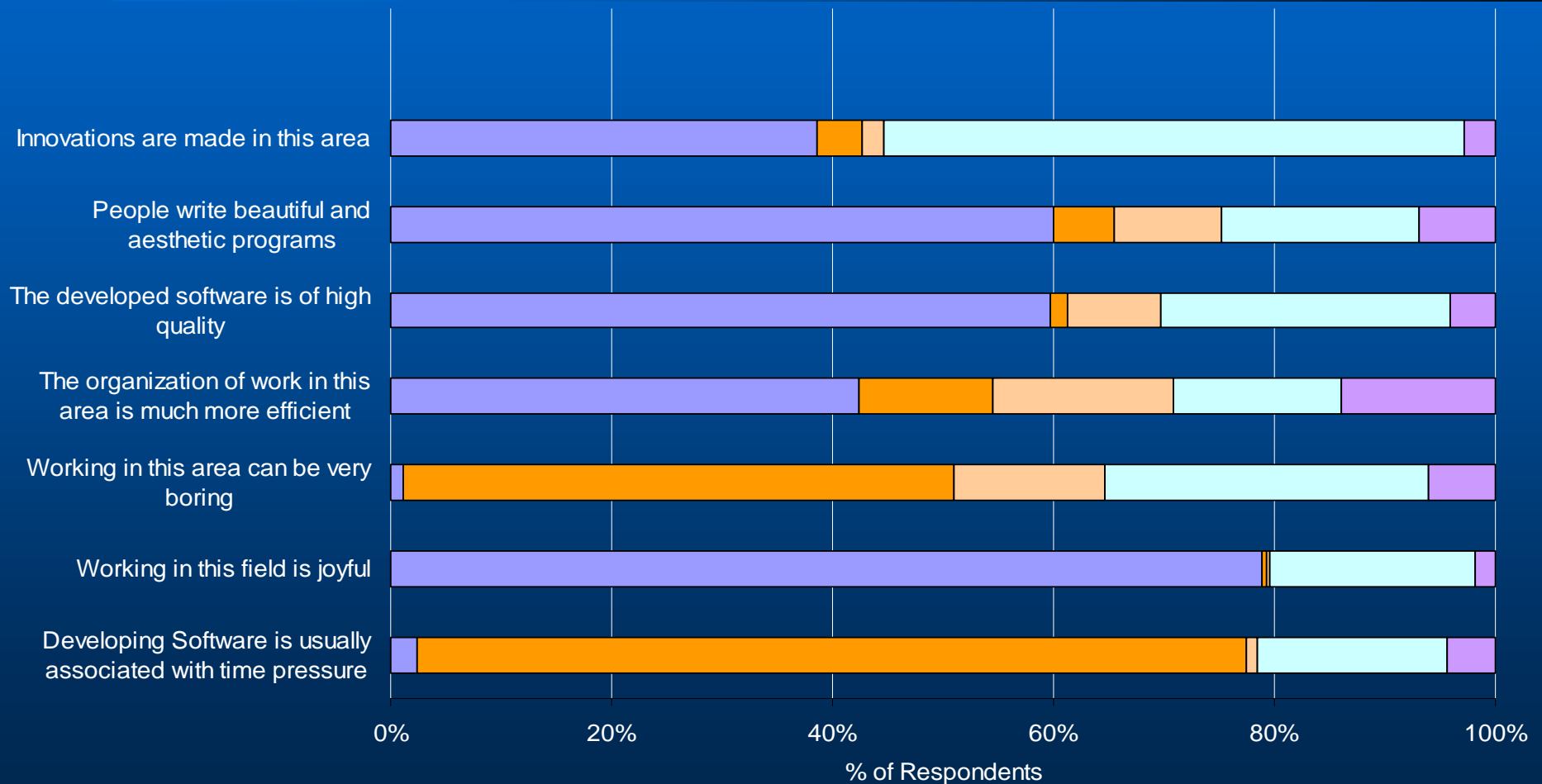


F/LOSS vs. Closed Source Software

Do you think that F/LOSS satisfies today's requirements for software better than proprietary software?

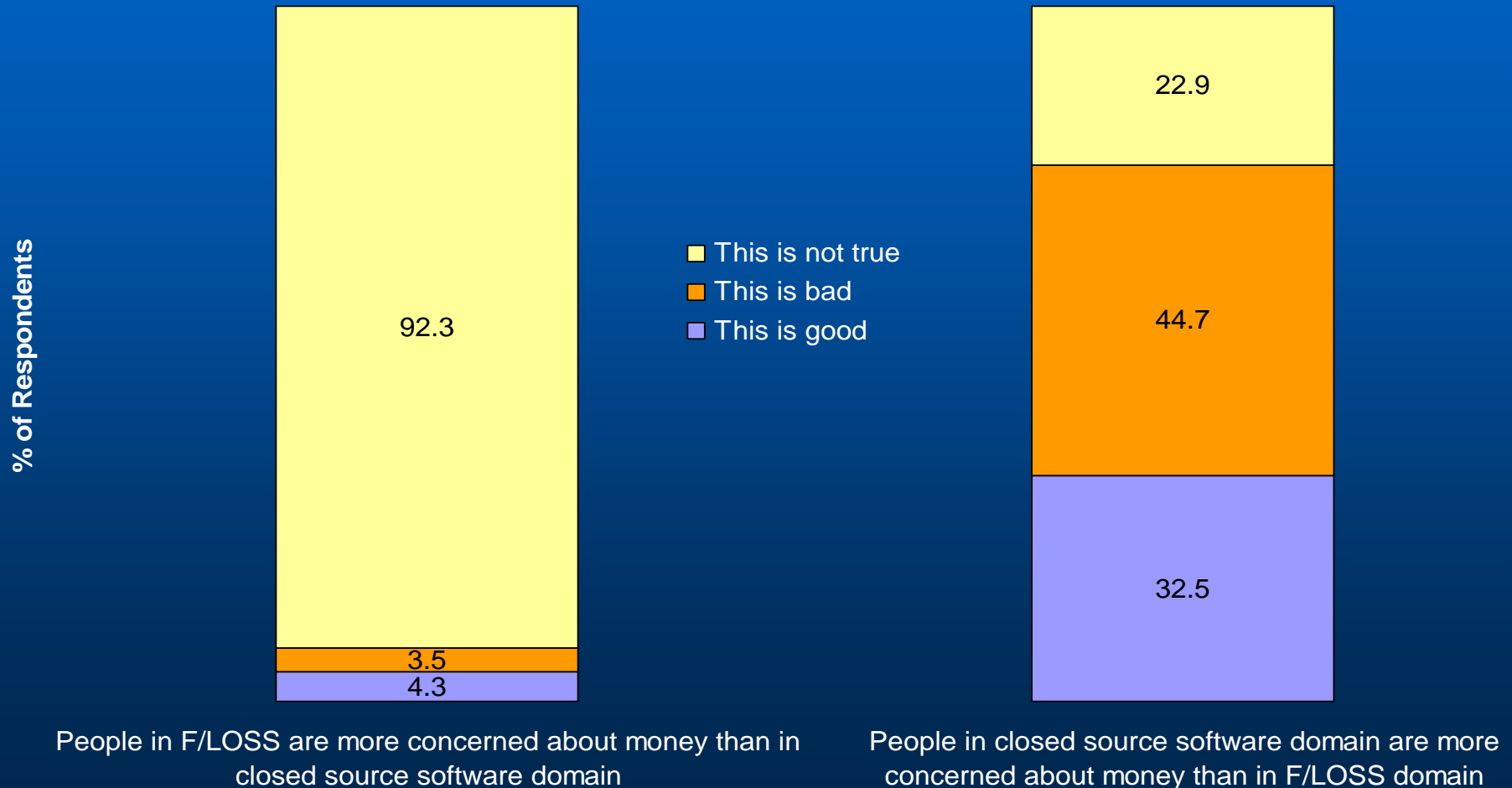


Characteristics of F/LOSS and of Closed Source Software



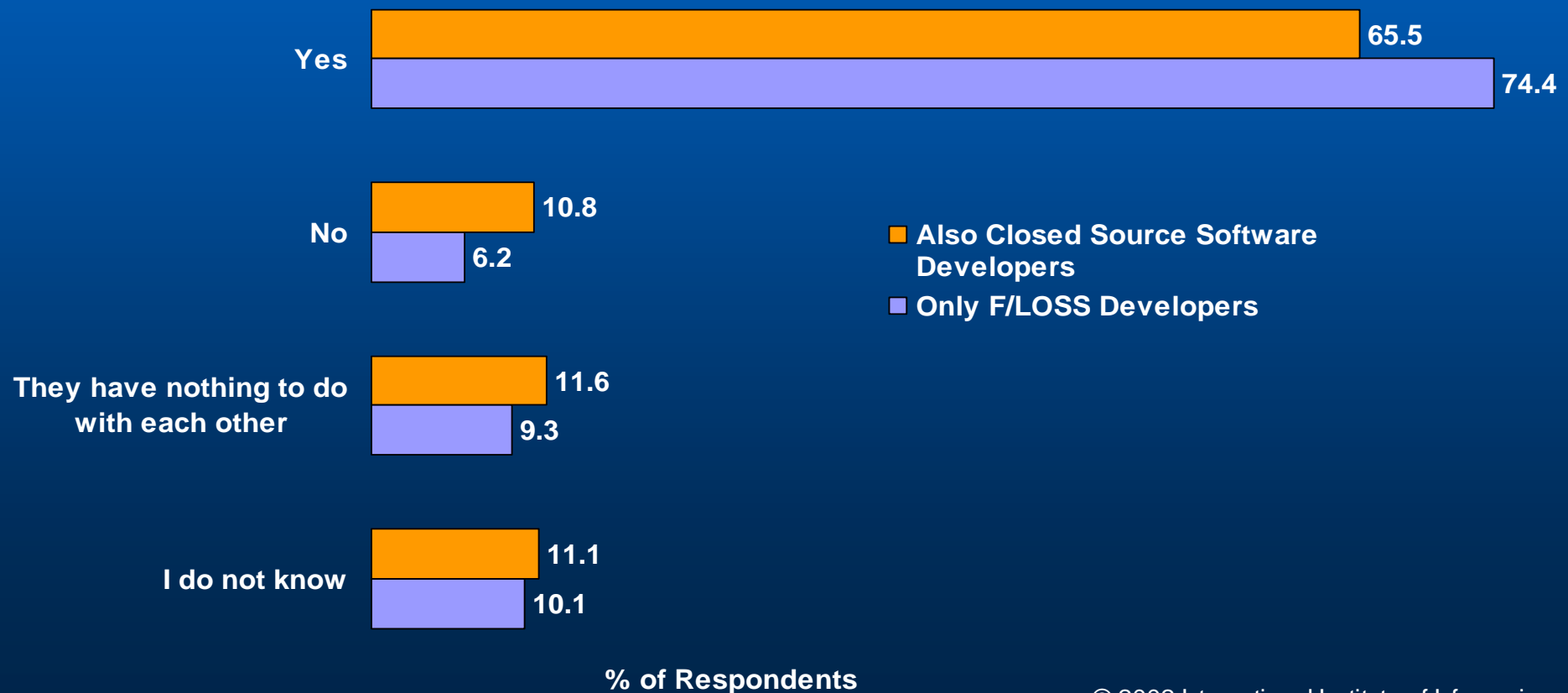
- applies more to FLOSS
- applies more to proprietary software
- applies to none of the domains
- applies to both domains
- I do not know

Importance of Money in F/LOSS and Closed Source Software



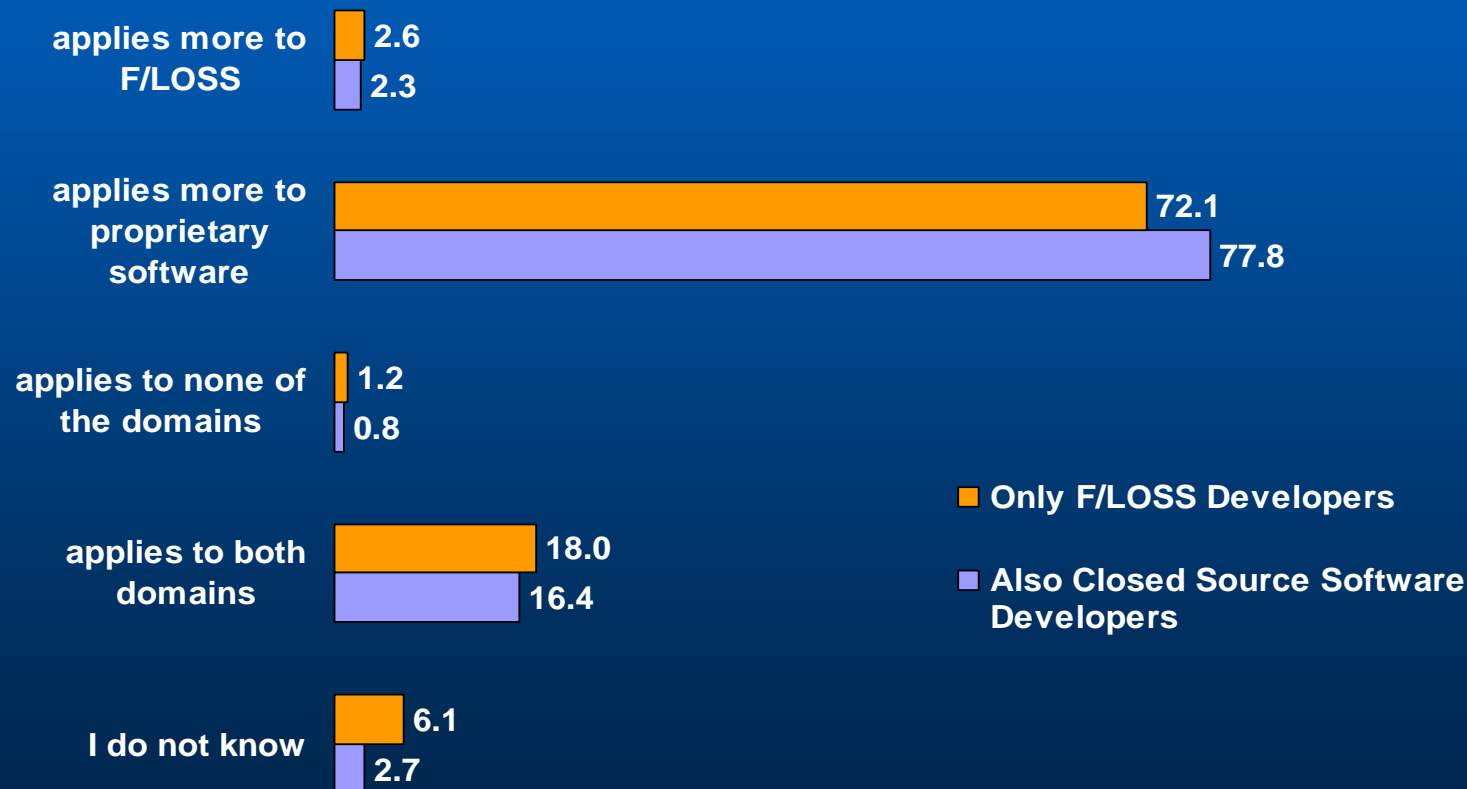
F/LOSS vs. Closed Source Software Developers I

"Do you think that F/LOSS satisfies today's requirements from software better than closed source software?"



F/LOSS vs. Closed Source Software Developers II

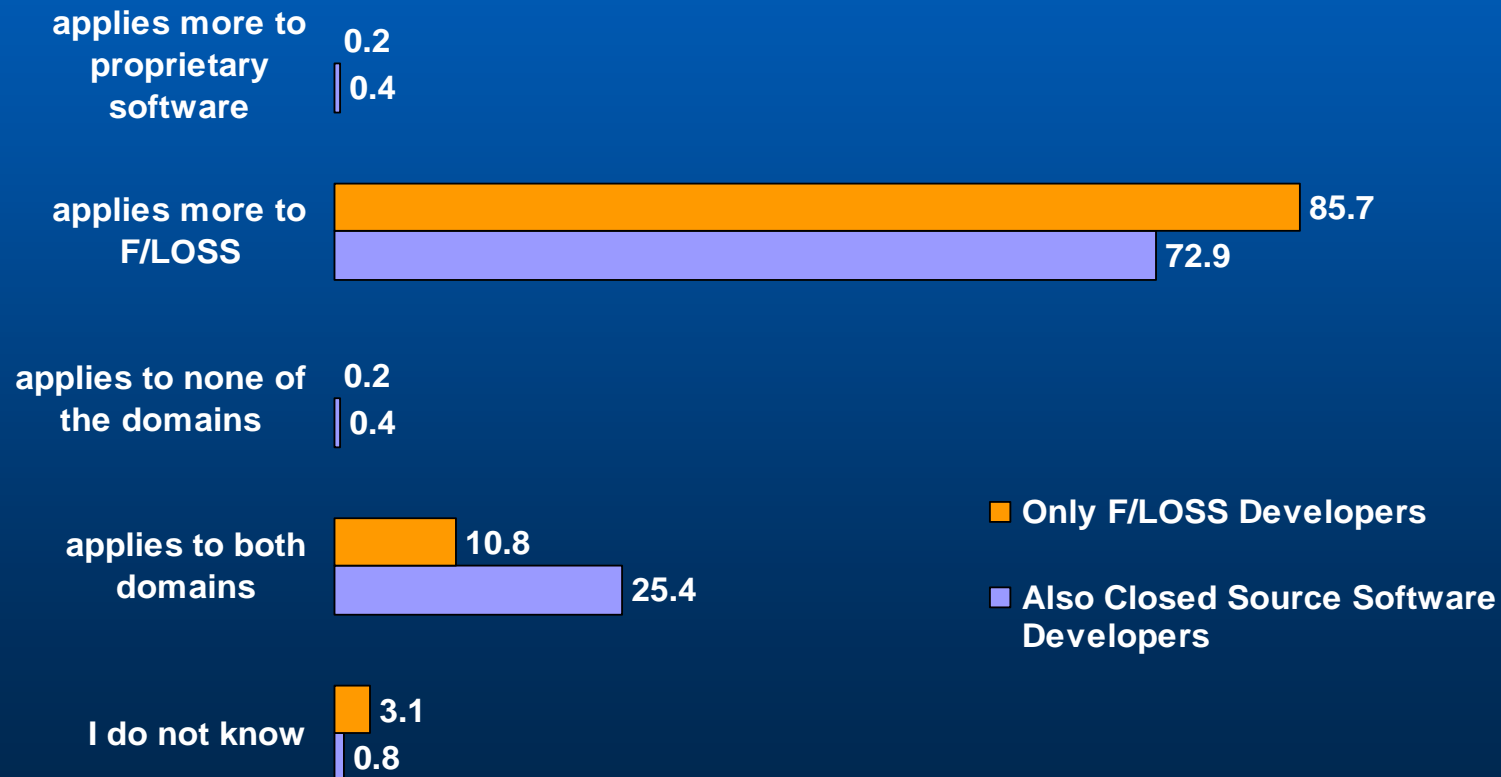
"Developing Software is usually associated with time pressure."



% of Respondents

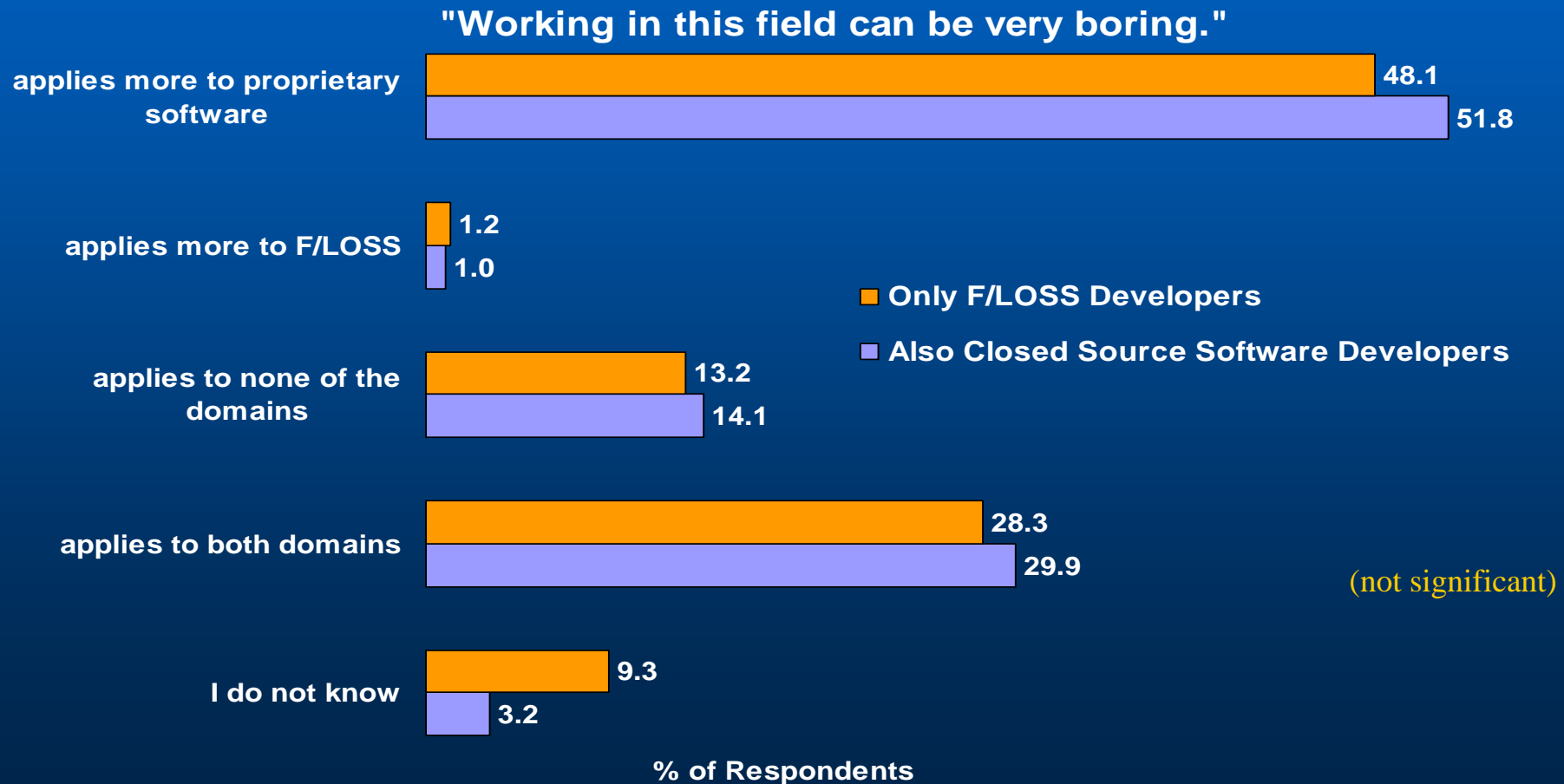
F/LOSS vs. Closed Source Software Developers III

"Working in this field is joyful."



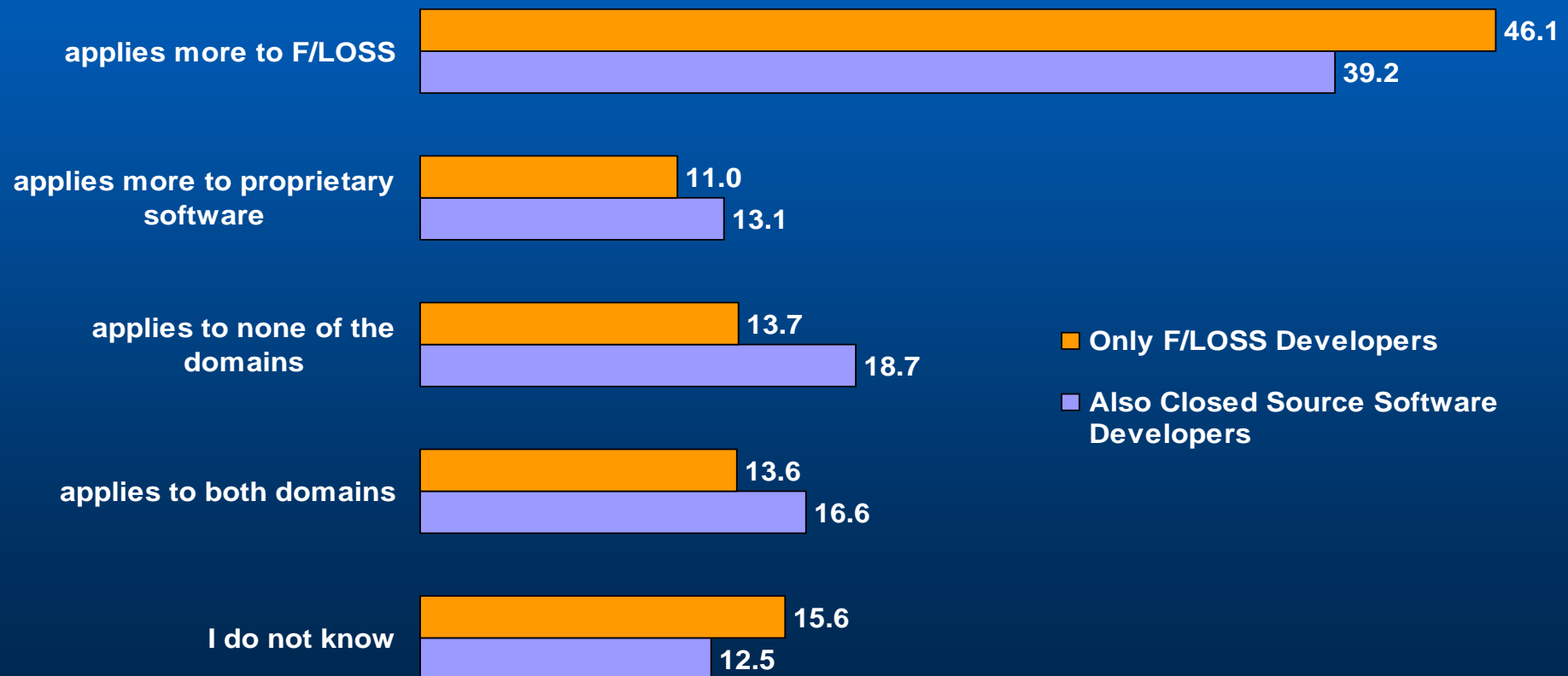
% of Respondents

F/LOSS vs. Closed Source Software Developers IV



F/LOSS vs. Closed Source Software Developers V

"The organisation of work in this area is much more efficient."

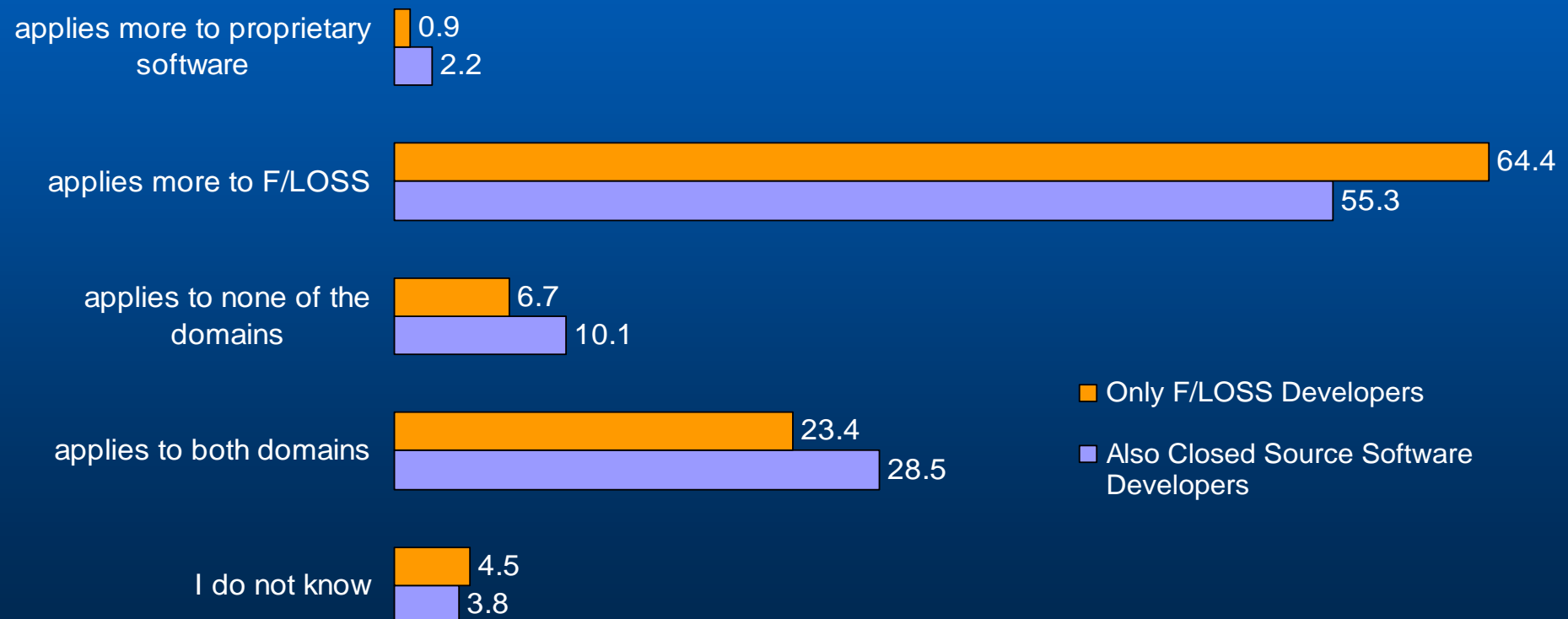


% of Respondents

© 2002 International Institute of Infonomics

F/LOSS vs. Closed Source Software Developers VI

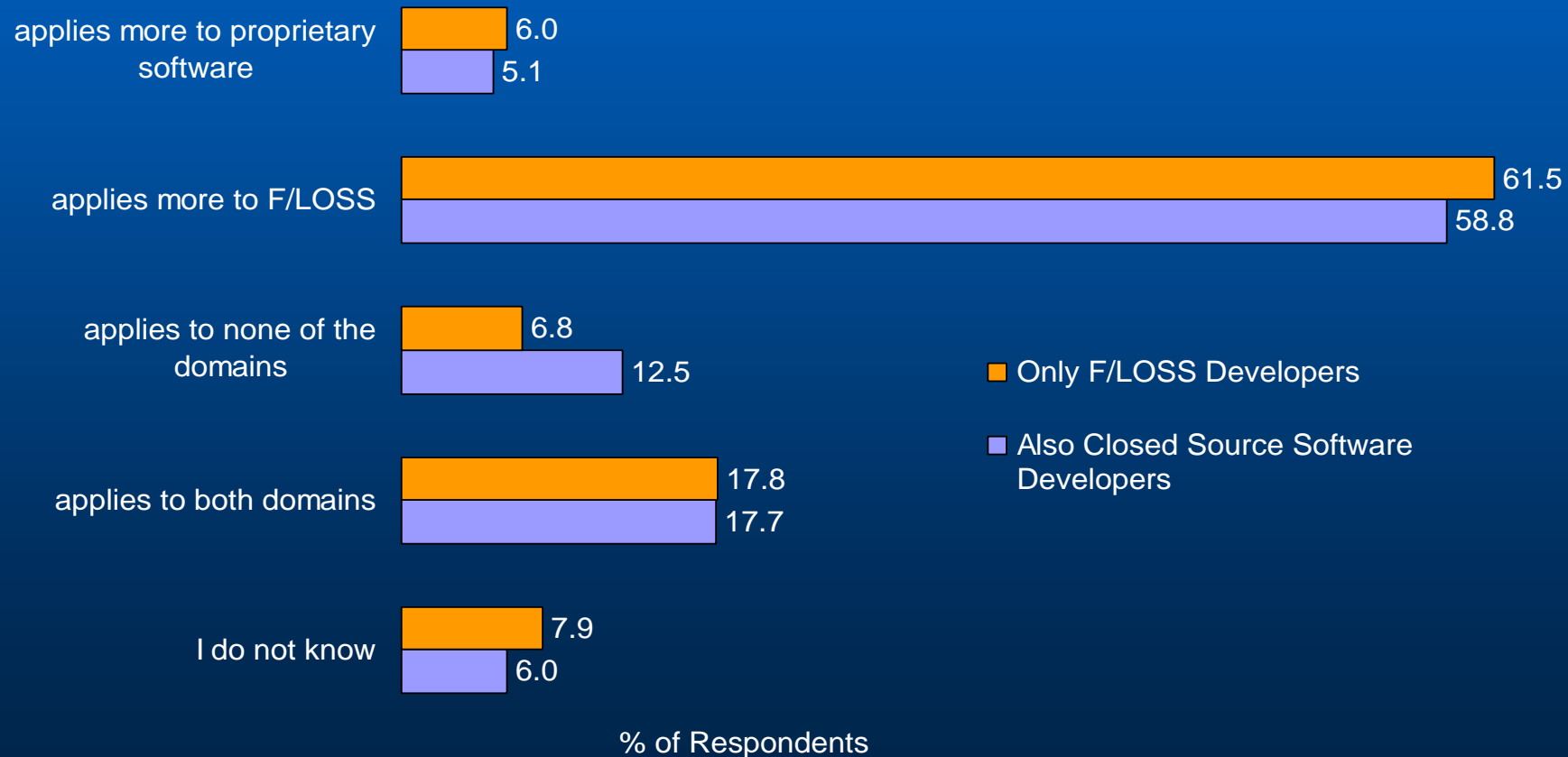
"The developed software is of high quality."



% of Respondents

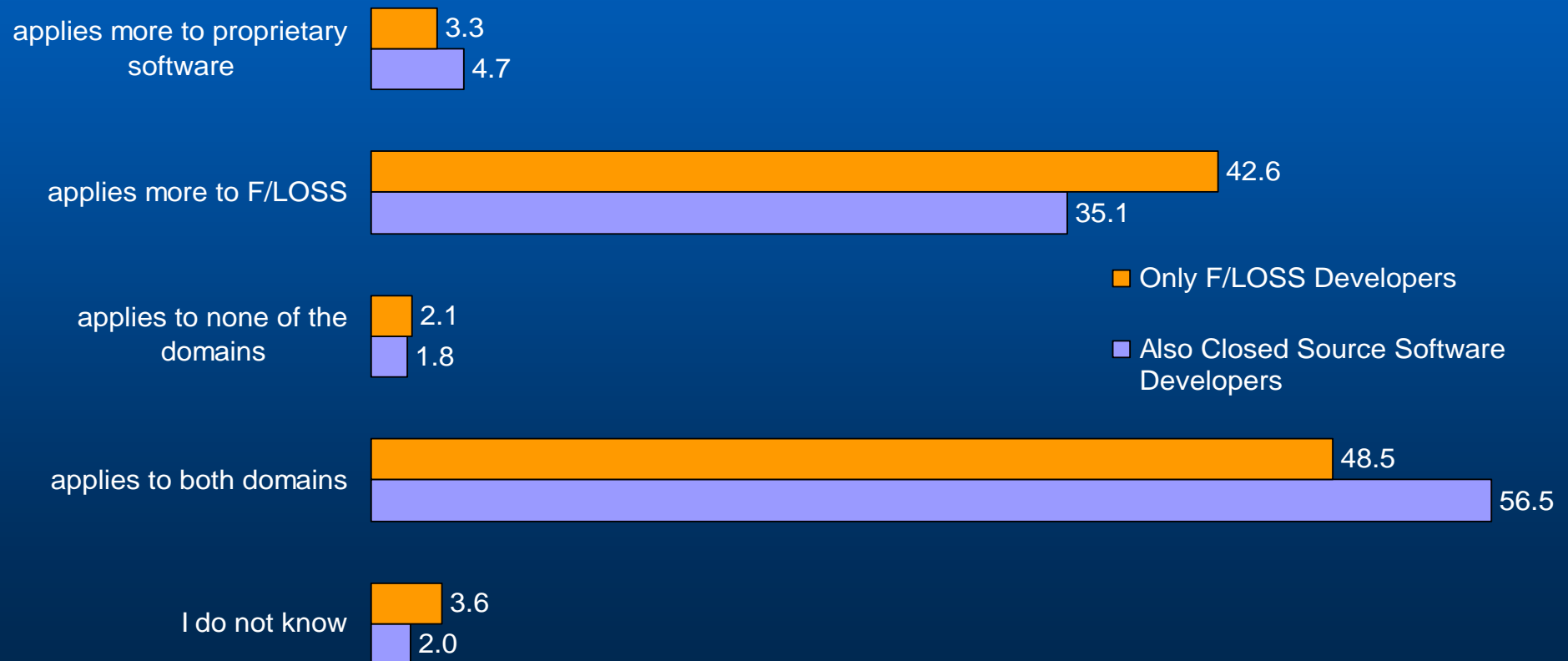
F/LOSS vs. Closed Source Software Developers VII

"People write beautiful and aesthetic programs."



F/LOSS vs. Closed Source Software Developers VIII

"Innovations are made in this area."

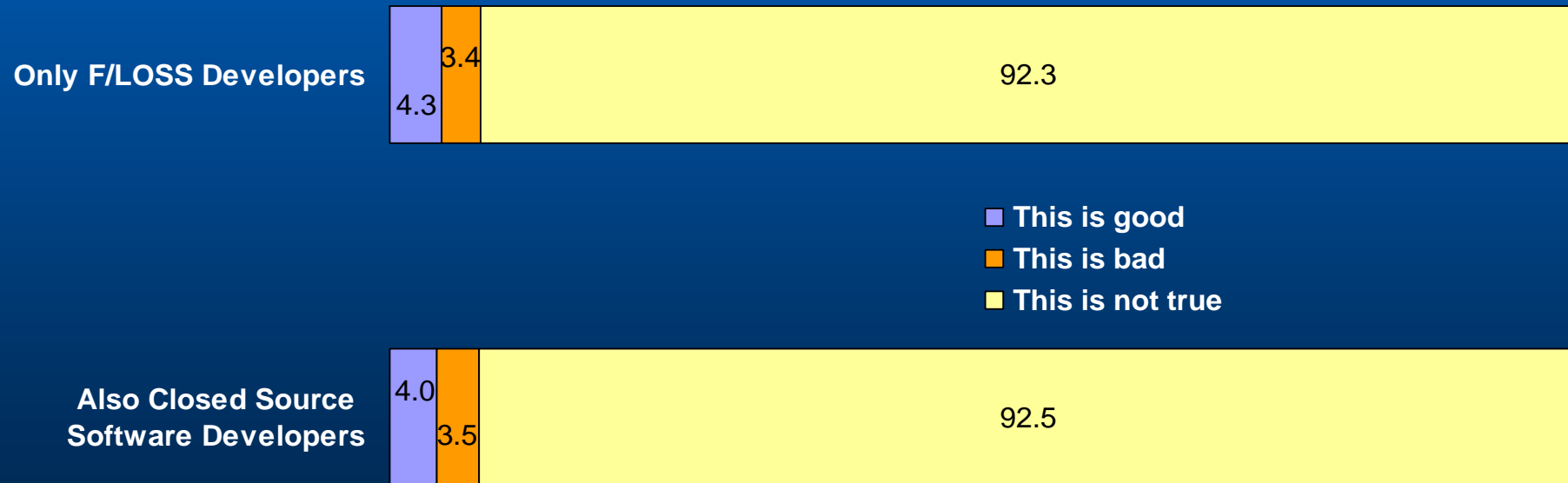


% of Respondents

F/LOSS vs. Closed Source Software Developers IX

"People in the F/LOSS domain are more concerned about money than people in the closed source software domain."

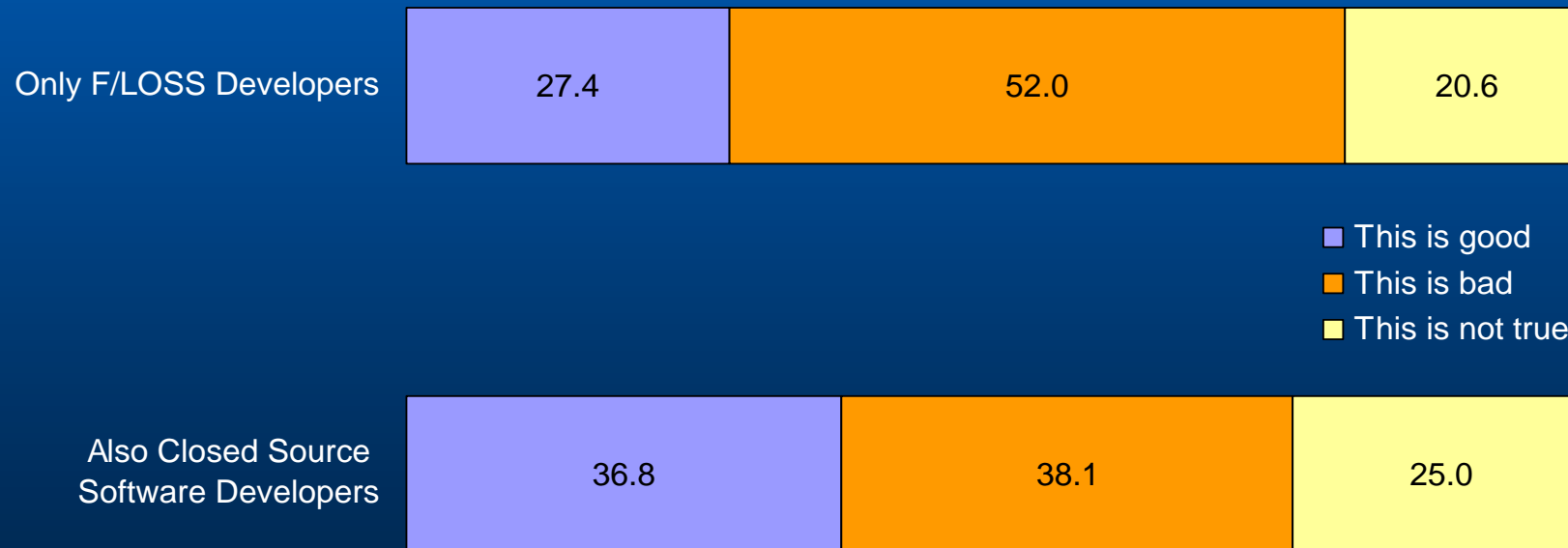
(not significant)



% of Respondents

F/LOSS vs. Closed Source Software Developers X

"People in the closed source software domain are more concerned about money than people in the F/LOSS domain."



% of Respondents

Structure

- Purpose and Methodology
- Characteristics of F/LOSS Developers
- F/LOSS versus Closed Source Software
- Motivations of F/LOSS Developers
- Motivations of F/LOSS and Close Source Software Developers
- Motivations of High and Low Activity F/LOSS Developers

Motivations for Developing F/LOSS (from Literature)

- **Monetary Rewards**
- **Signalling Effects (Career Concerns)**
- **Product-related Reasons**
- **Political Reasons**
- **Social Aspects / Fun**

Monetary Rewards from F/LOSS - Incidence

% of Respondents



Software as Source of Main Income – F/LOSS and Closed Software

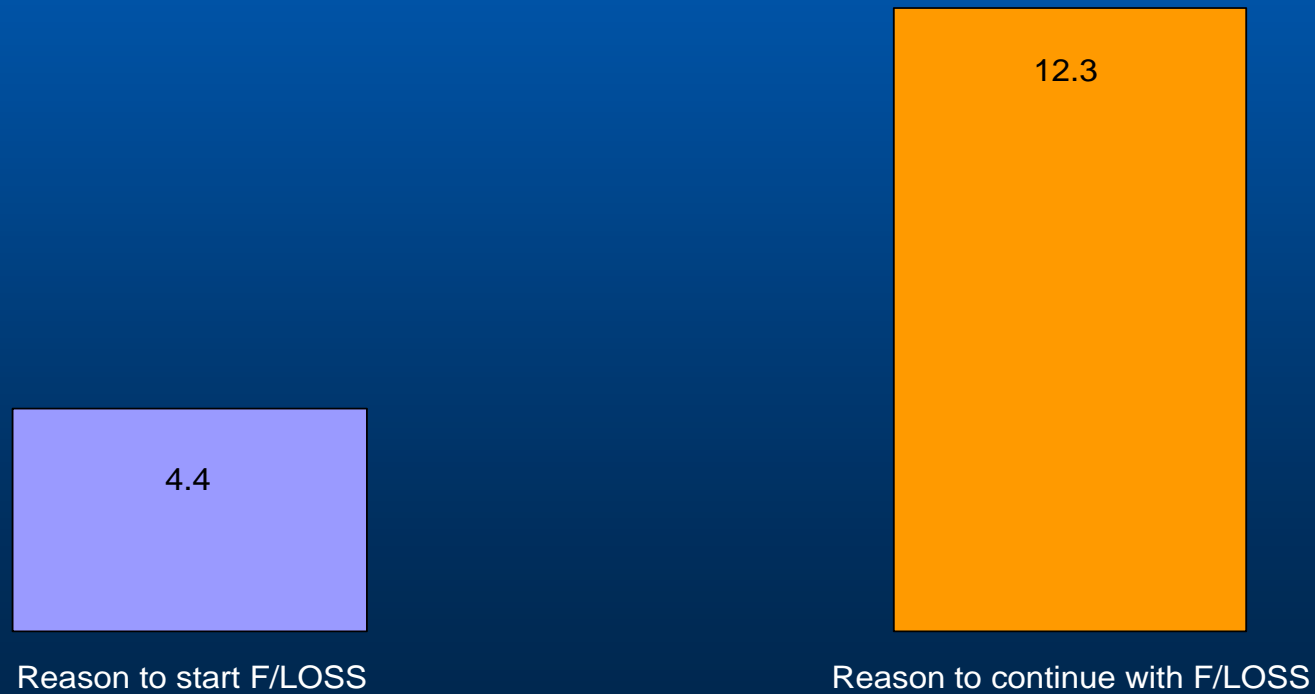
“Do you earn your main income from developing, supporting, or administrating software?”



Money as a Motivation to Develop F/LOSS

"To make money is a ...

% of Respondents

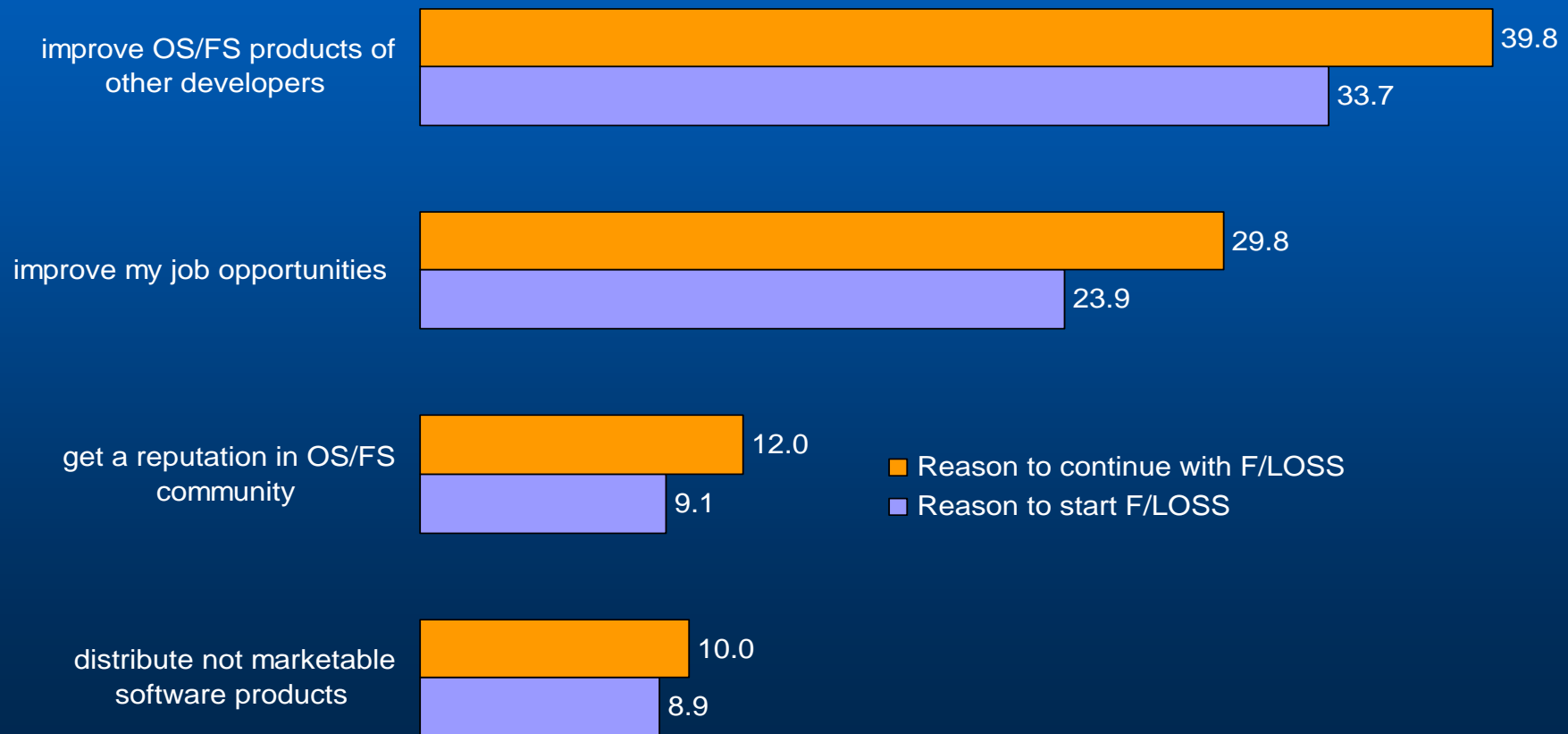


Signalling Effects of F/LOSS on Labour Market

“Do you think there is a positive impact of experience in F/LOSS on job opportunities?”



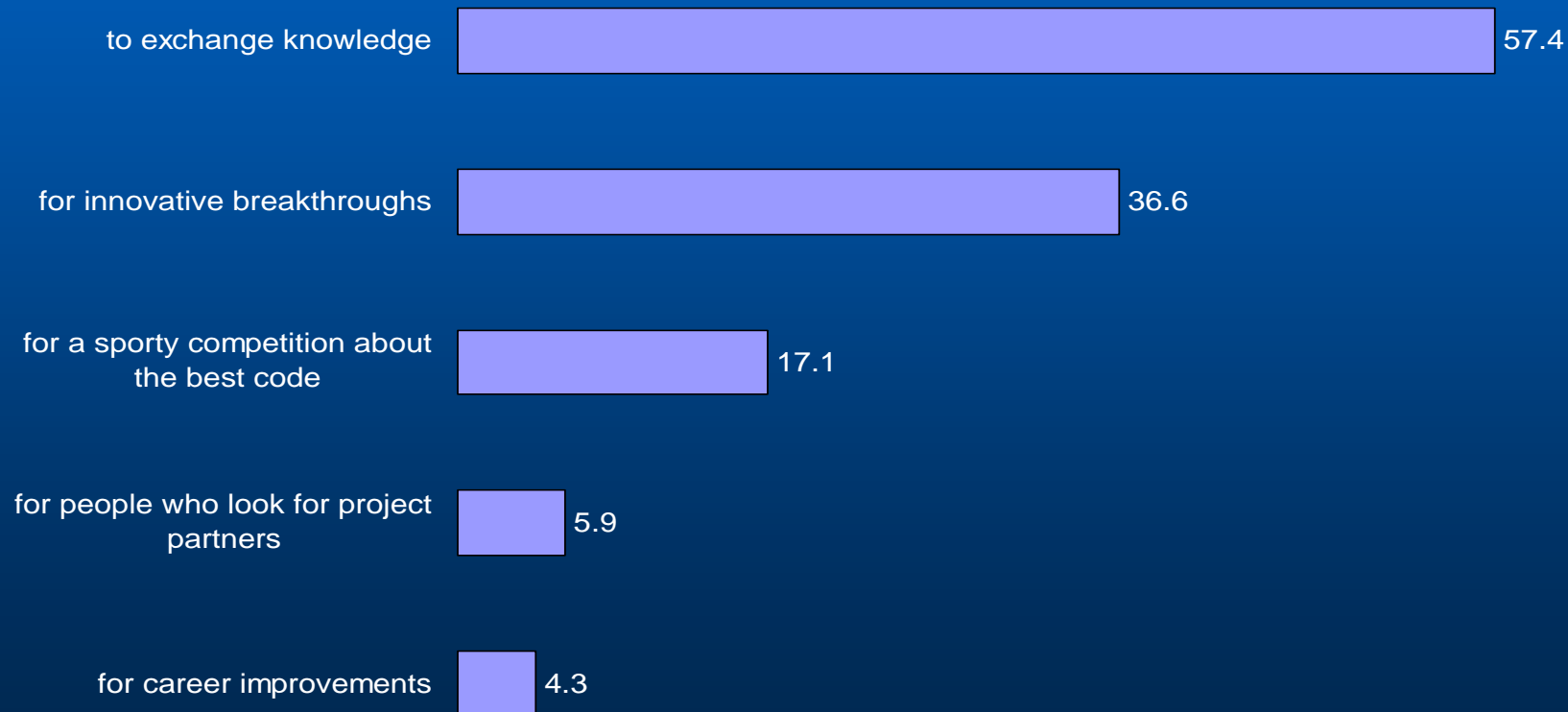
Signalling Effects as a Motivation to Develop F/LOSS



% of Respondents

Signalling Effects as a Functionality of F/LOSS Community

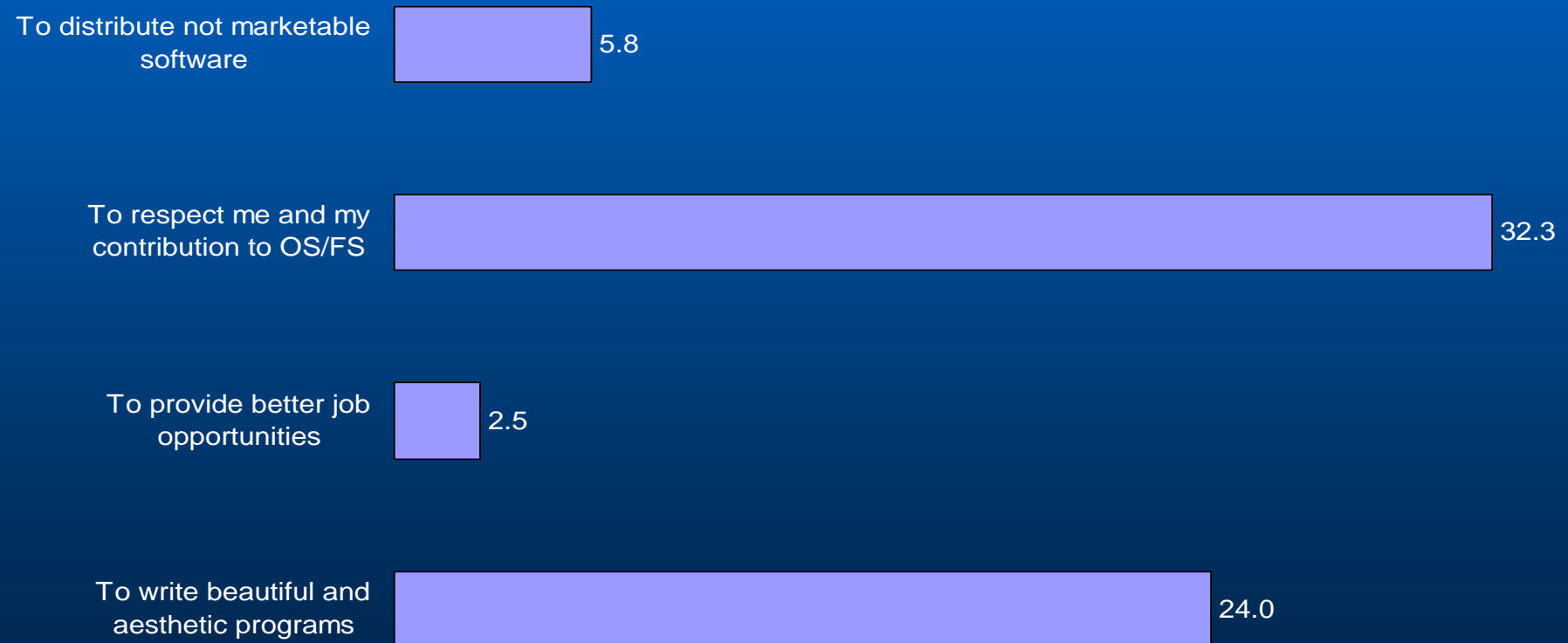
“F/LOSS Community is a Forum...”



% of Respondents

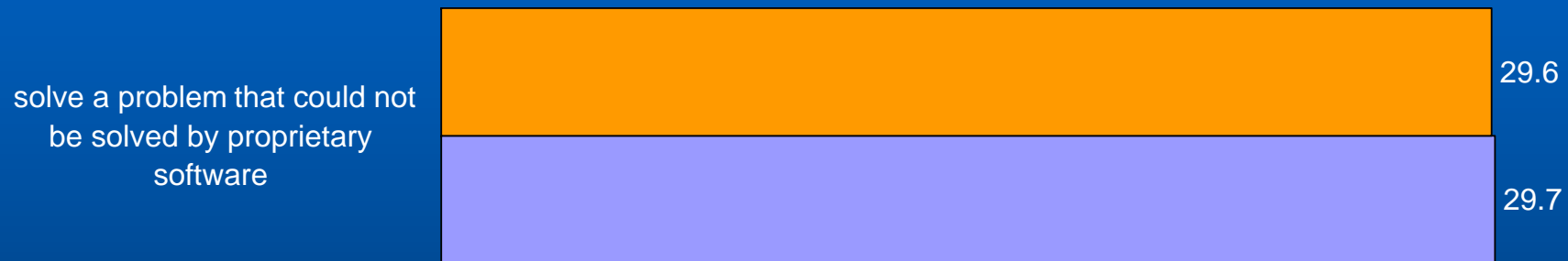
Signalling Effects in the Expectations from Other Developers

"What Do You Expect from Other OS/FS Developers?"

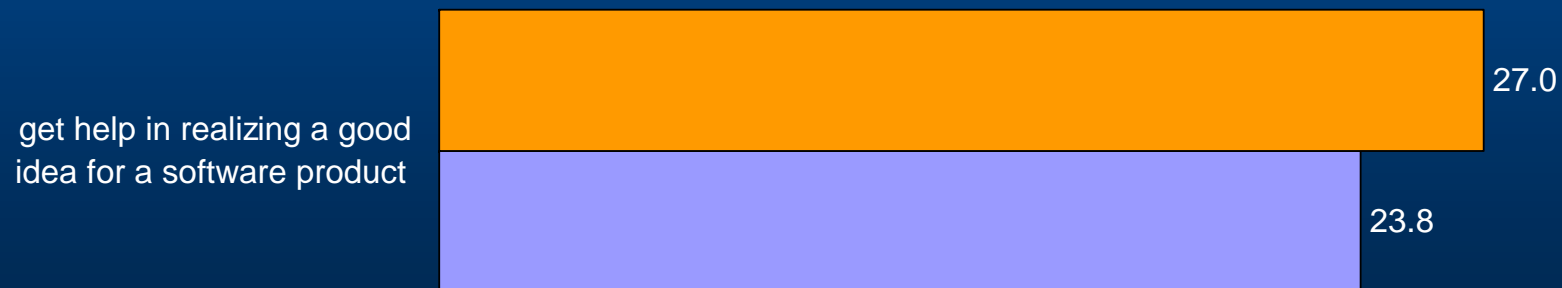


% of Respondents

Product-related Motivations



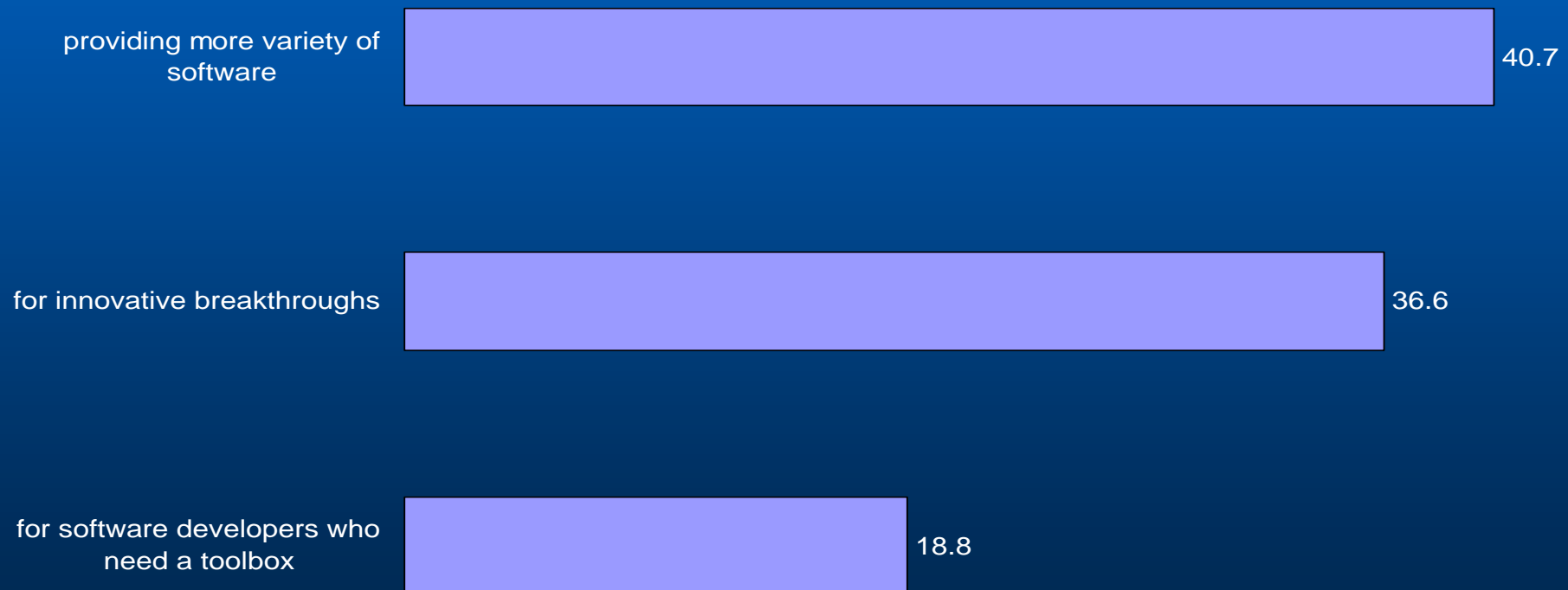
Reason to continue with F/LOSS
Reason to start F/LOSS



% of Respondents

Product-related Functionalities of F/LOSS Community

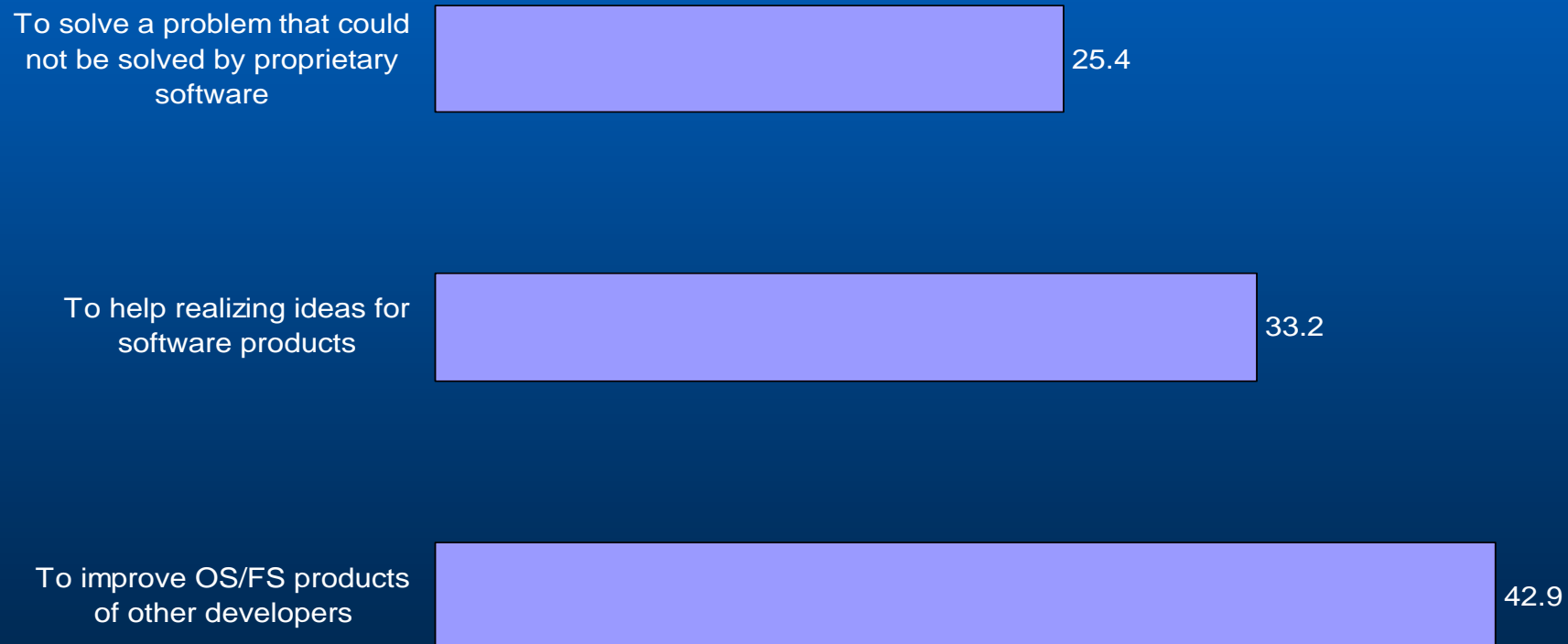
“F/LOSS Community is a Forum...”



% of Respondents

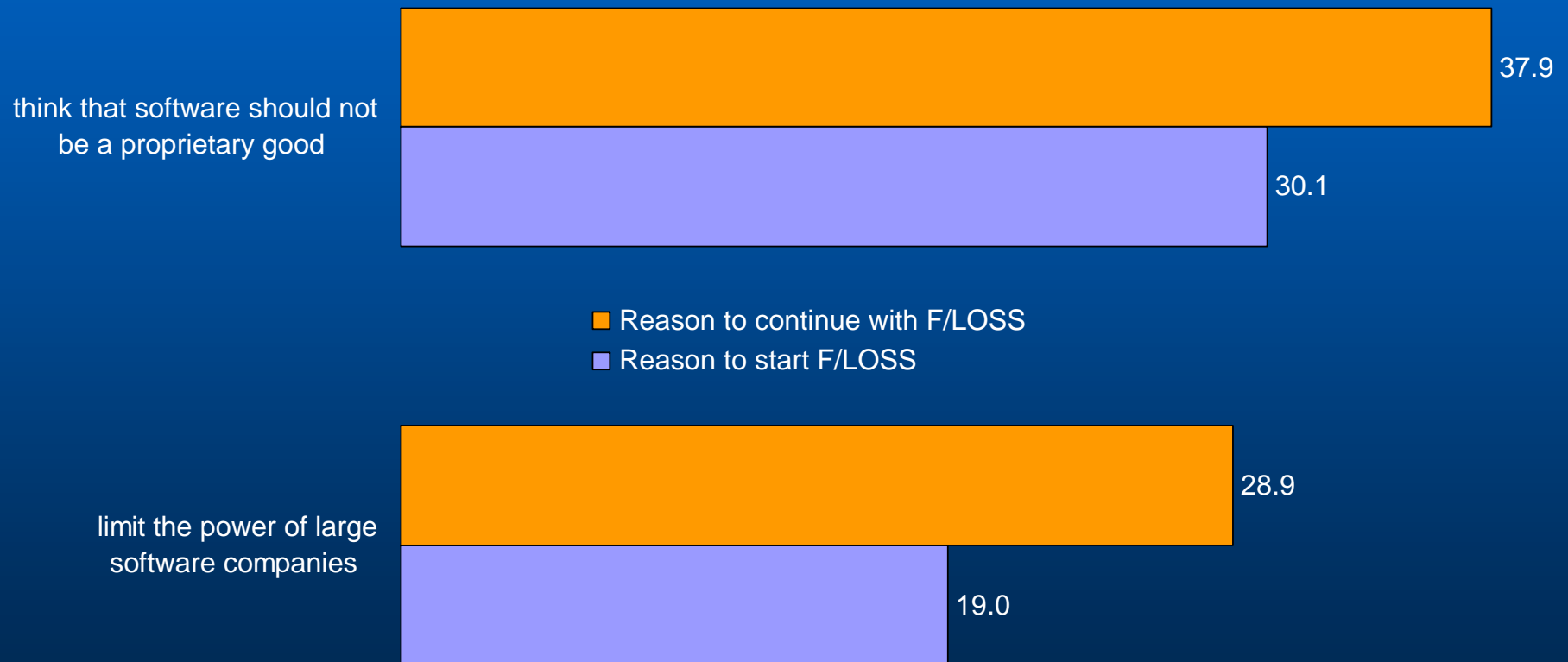
Product-related Expectations from Other Developers

"What Do You Expect from Other OS/FS Developers?"



% of Respondents

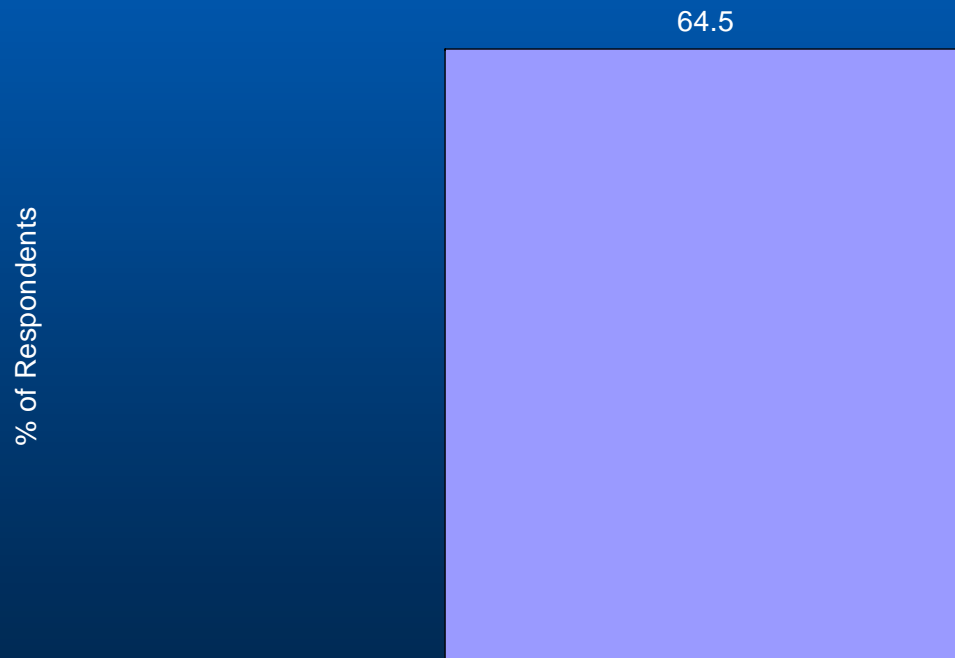
Political Motivations to Develop F/LOSS



% of Respondents

Political Goals as a Functionality of F/LOSS Community

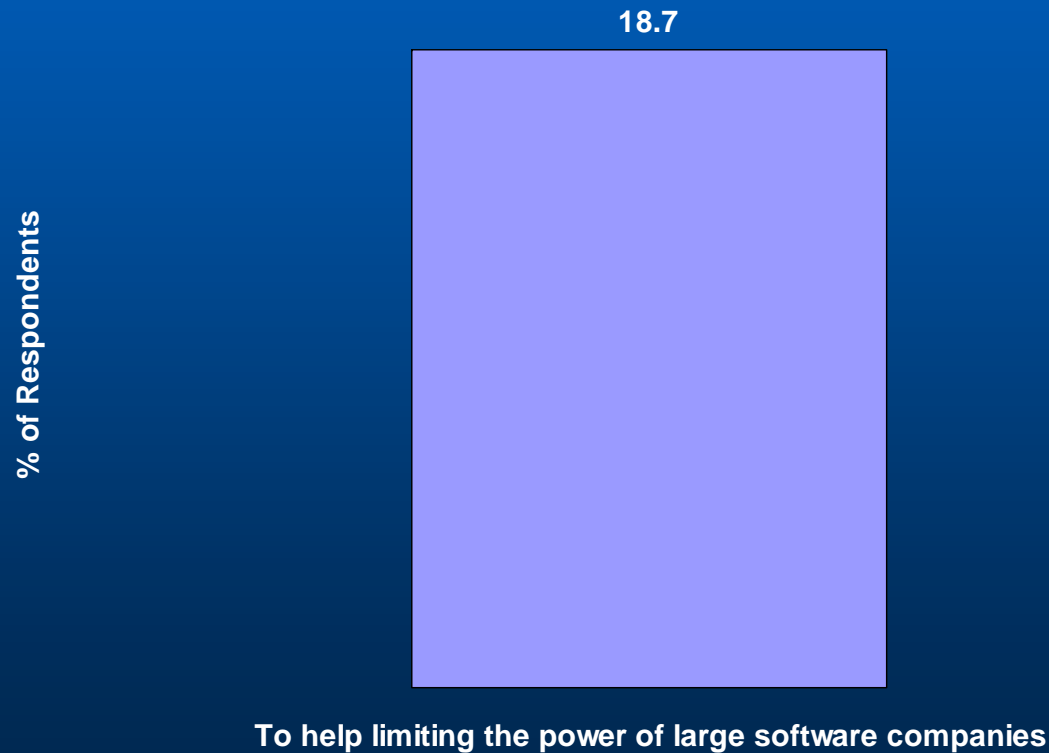
“F/LOSS Community is a Forum...”



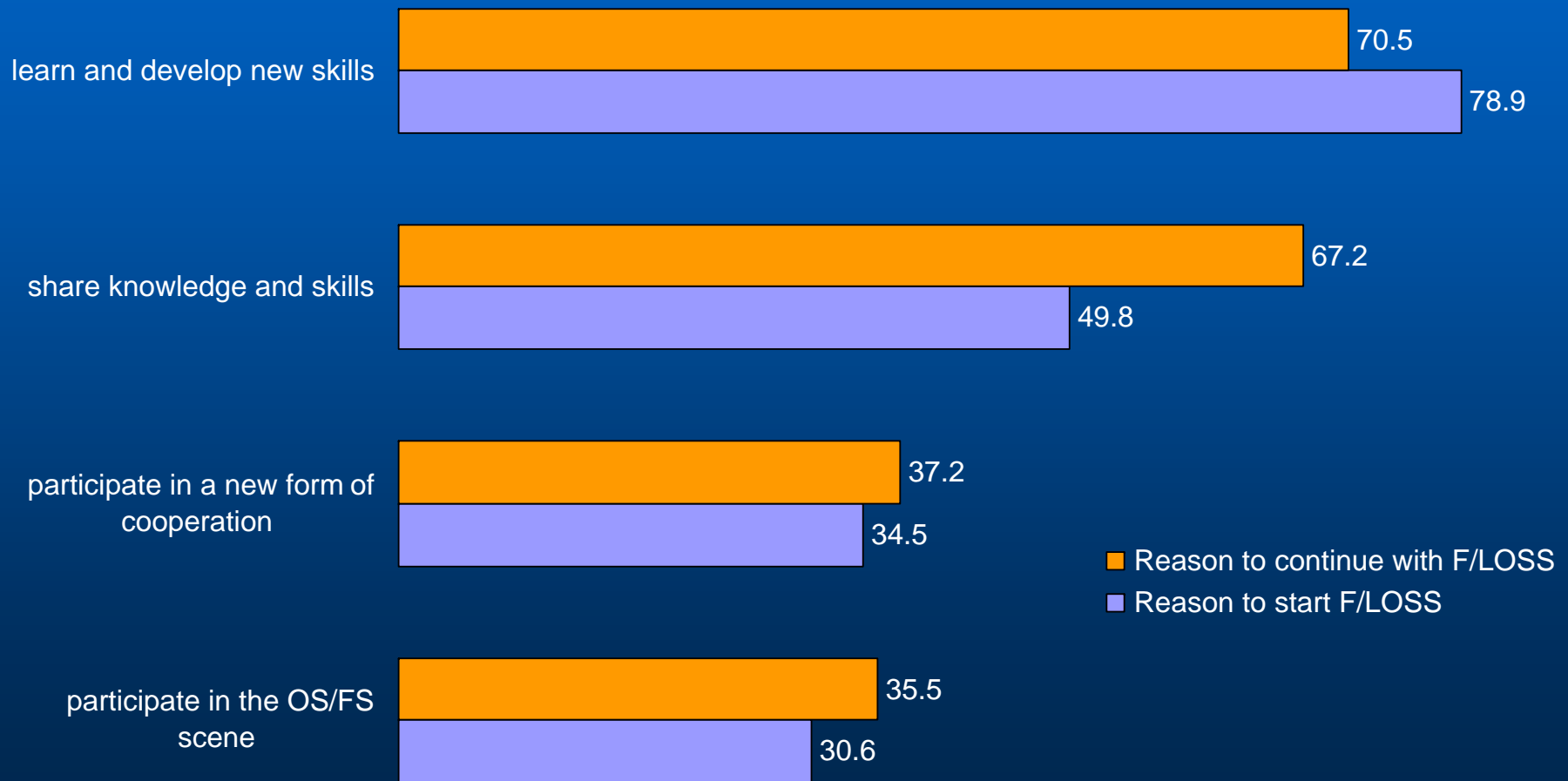
that enables more freedom in software development

Political Expectations from Other Developers

"What Do You Expect from Other OS/FS Developers?"



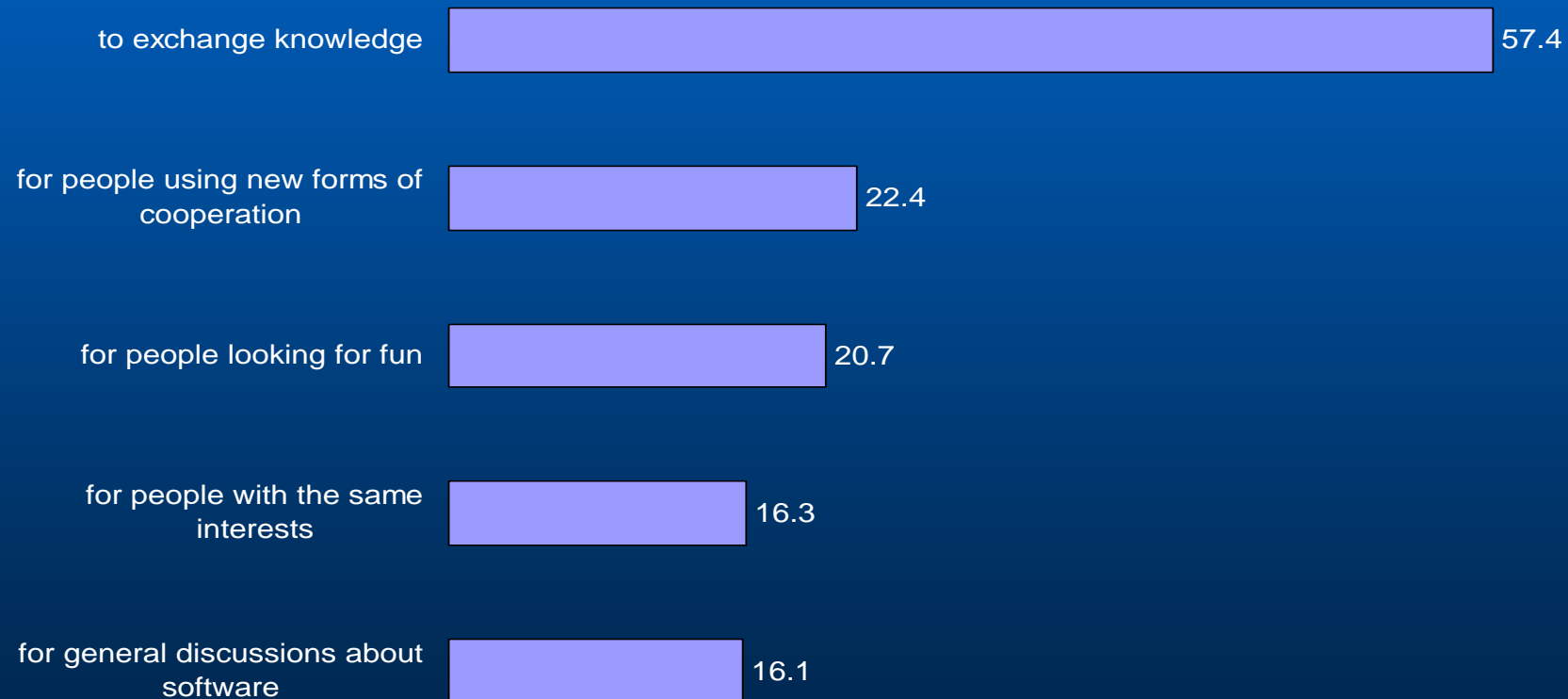
Social Motivations to Develop F/LOSS



% of Respondents

Social Functionalities of F/LOSS Community

“F/LOSS Community is a Forum...”



% of Respondents

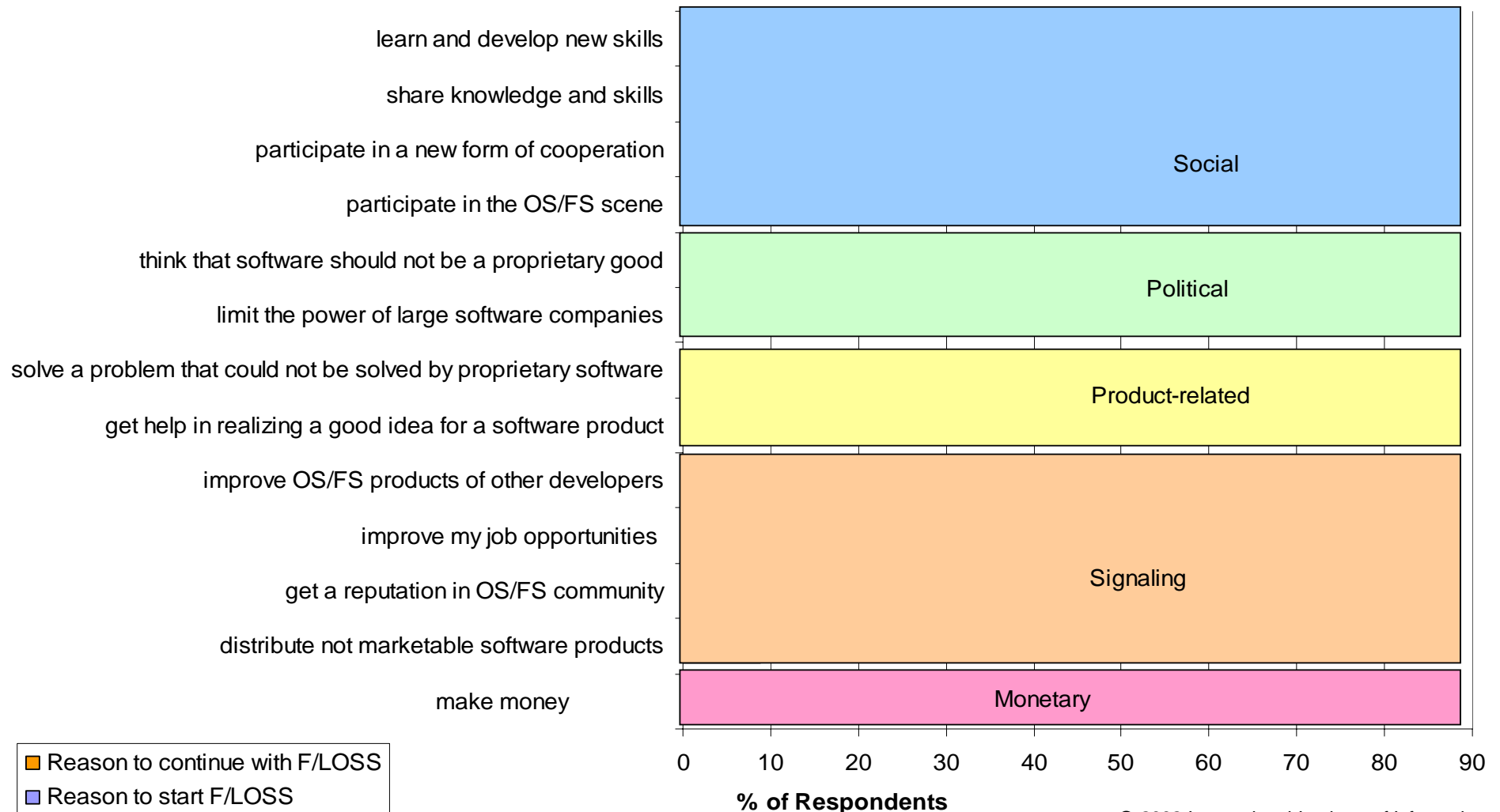
Political Expectations from Other Developers

"What Do You Expect from Other OS/FS Developers?"



% of Respondents

Motivations to Start and to Continue Developing F/LOSS

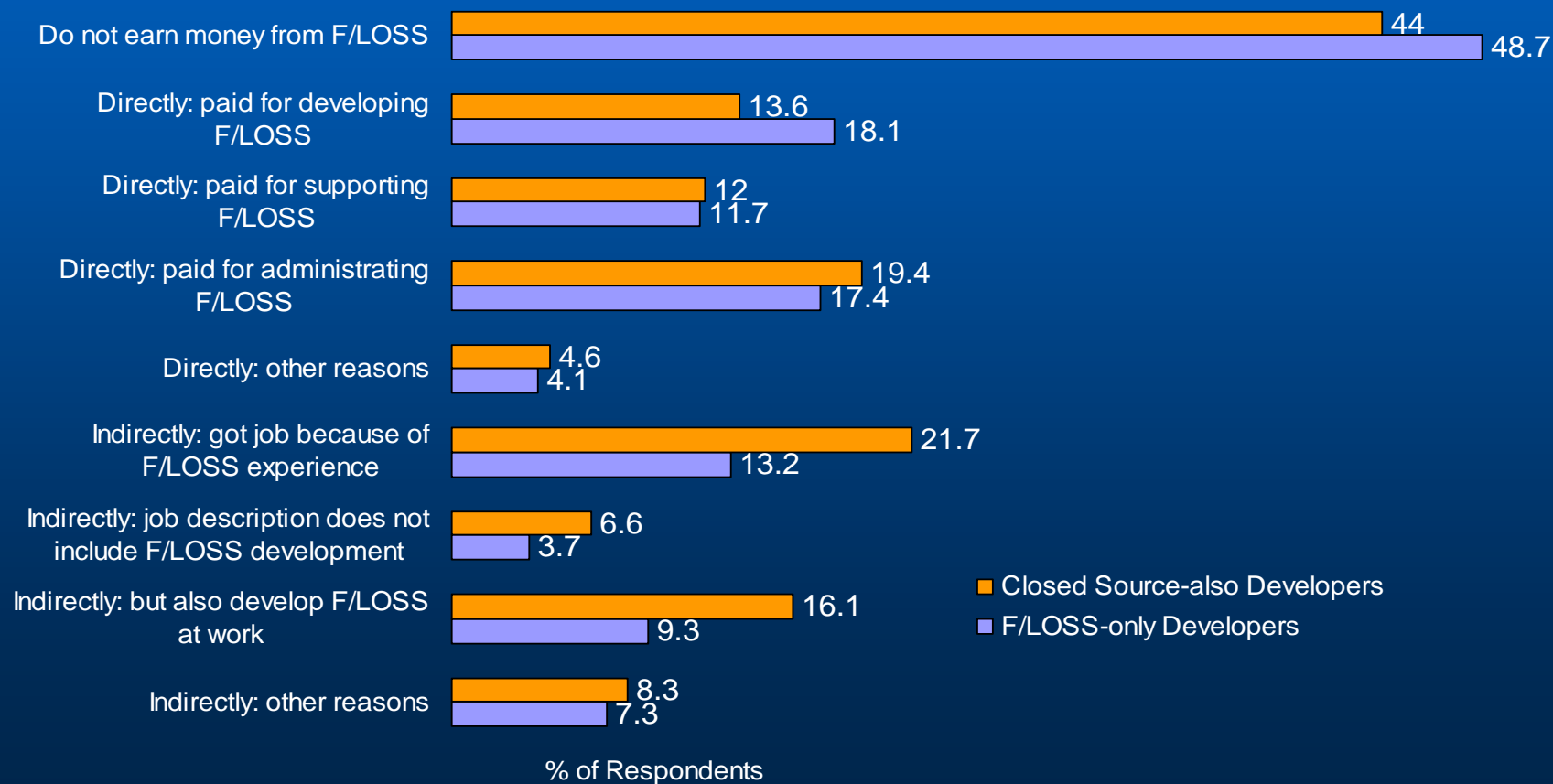


Structure

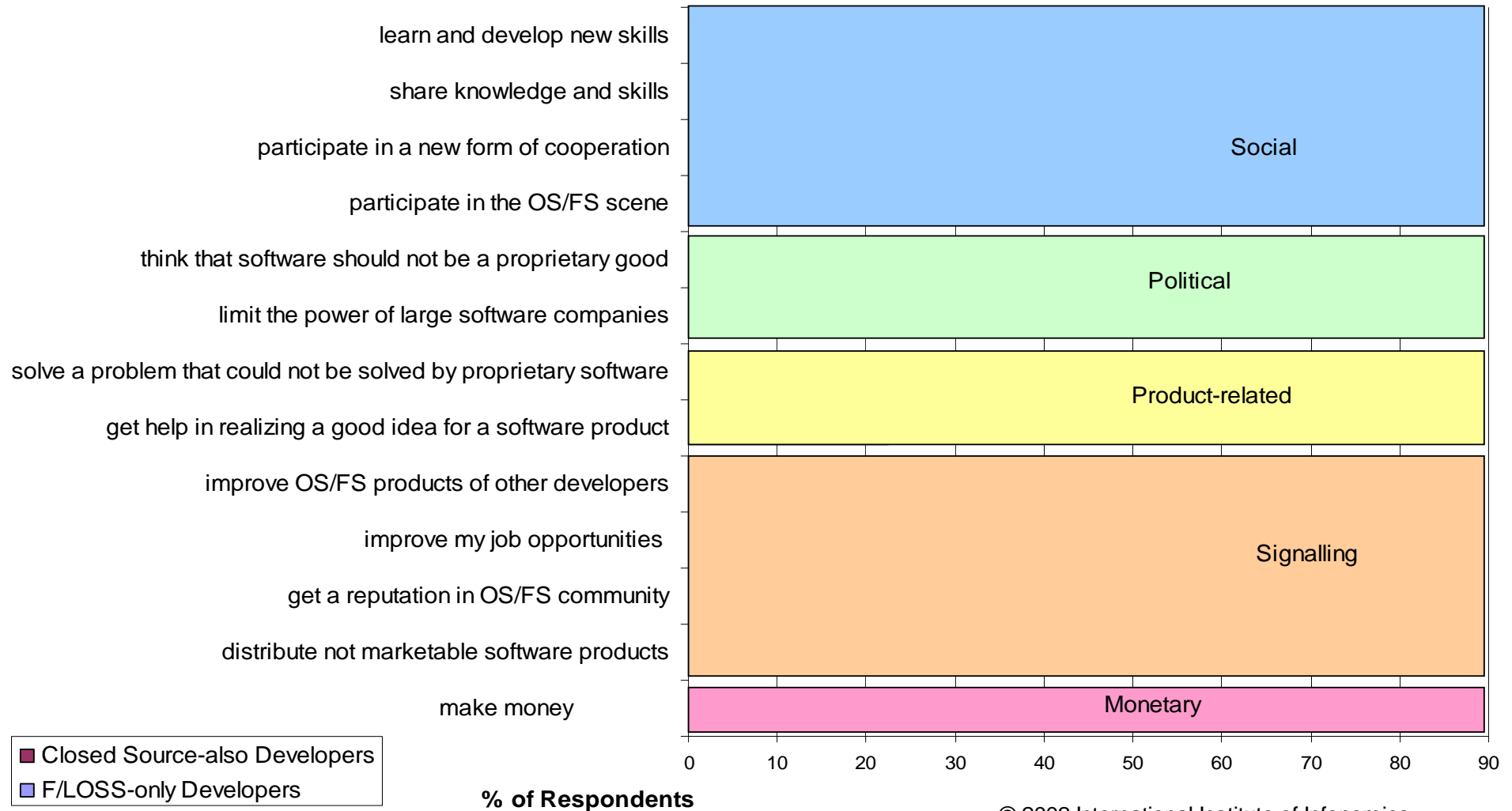
- Purpose and Methodology
- Characteristics of F/LOSS Developers
- F/LOSS versus Closed Source Software
- Motivations of F/LOSS Developers
- Motivations of F/LOSS and Close Source Software Developers
- Motivations of High and Low Activity F/LOSS Developers

Monetary Rewards from F/LOSS

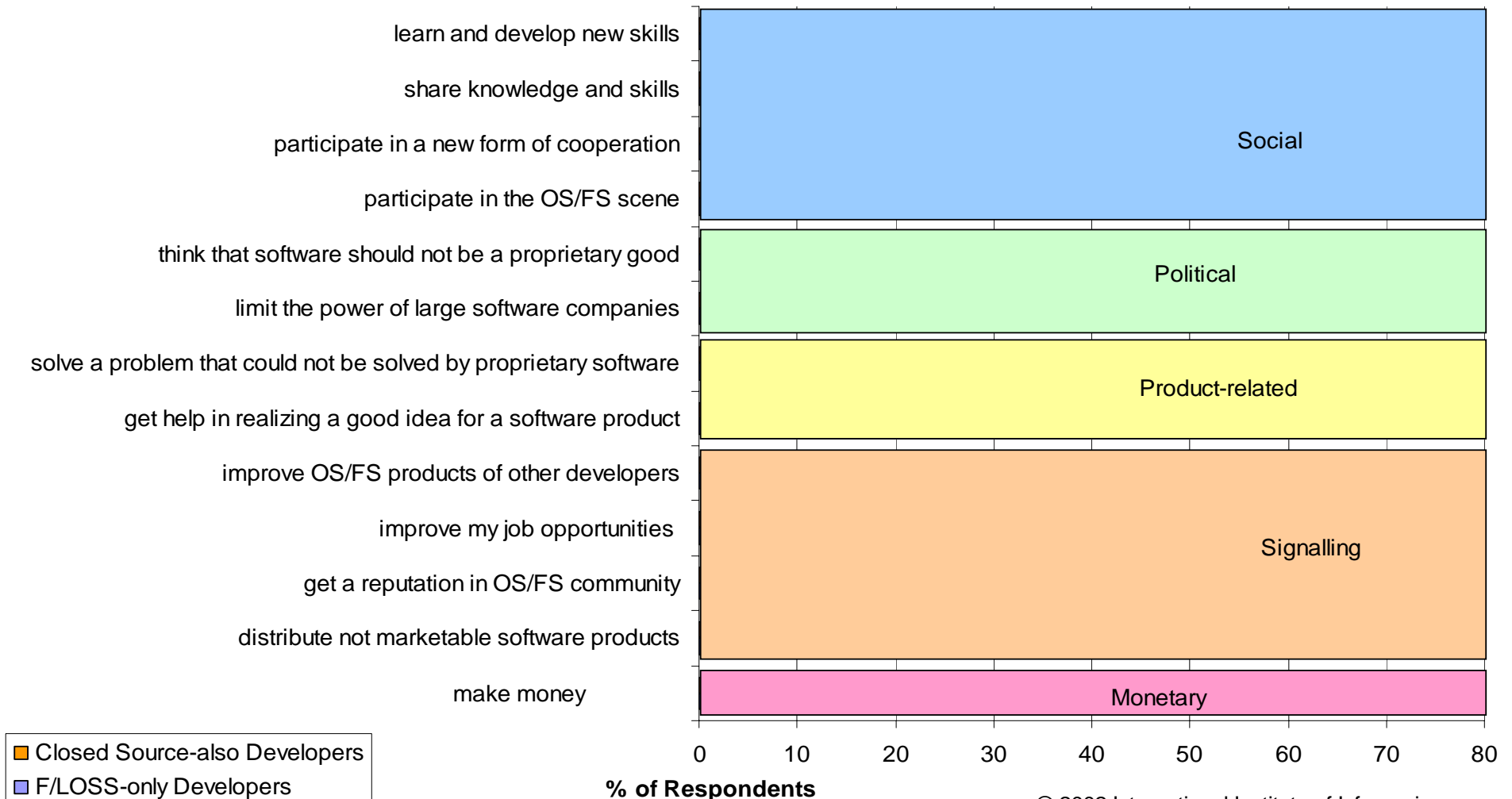
"Do you earn money from F/LOSS, either directly or indirectly?"



Reasons to Start Developing F/LOSS



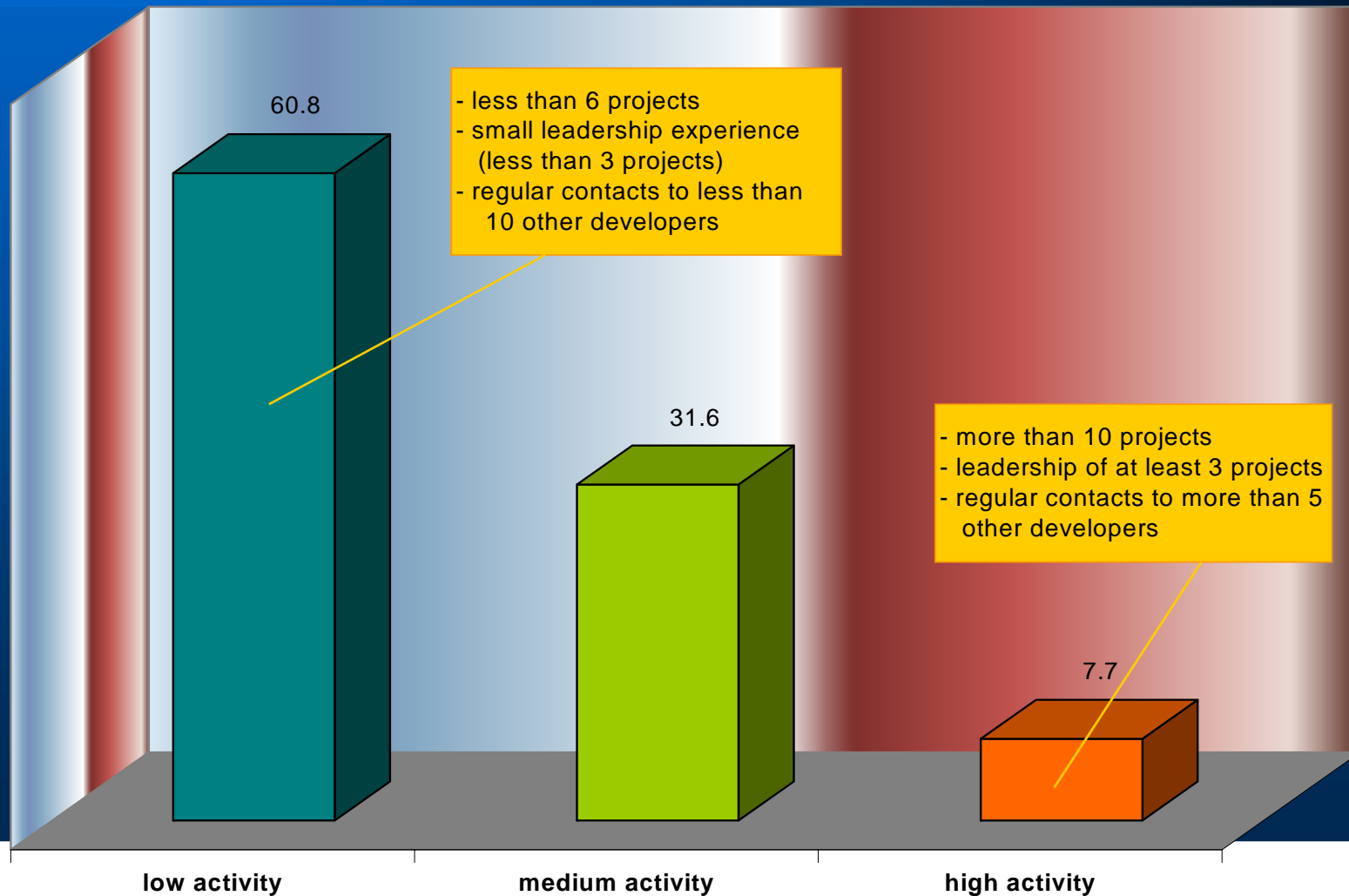
Reasons to Continue with Developing F/LOSS



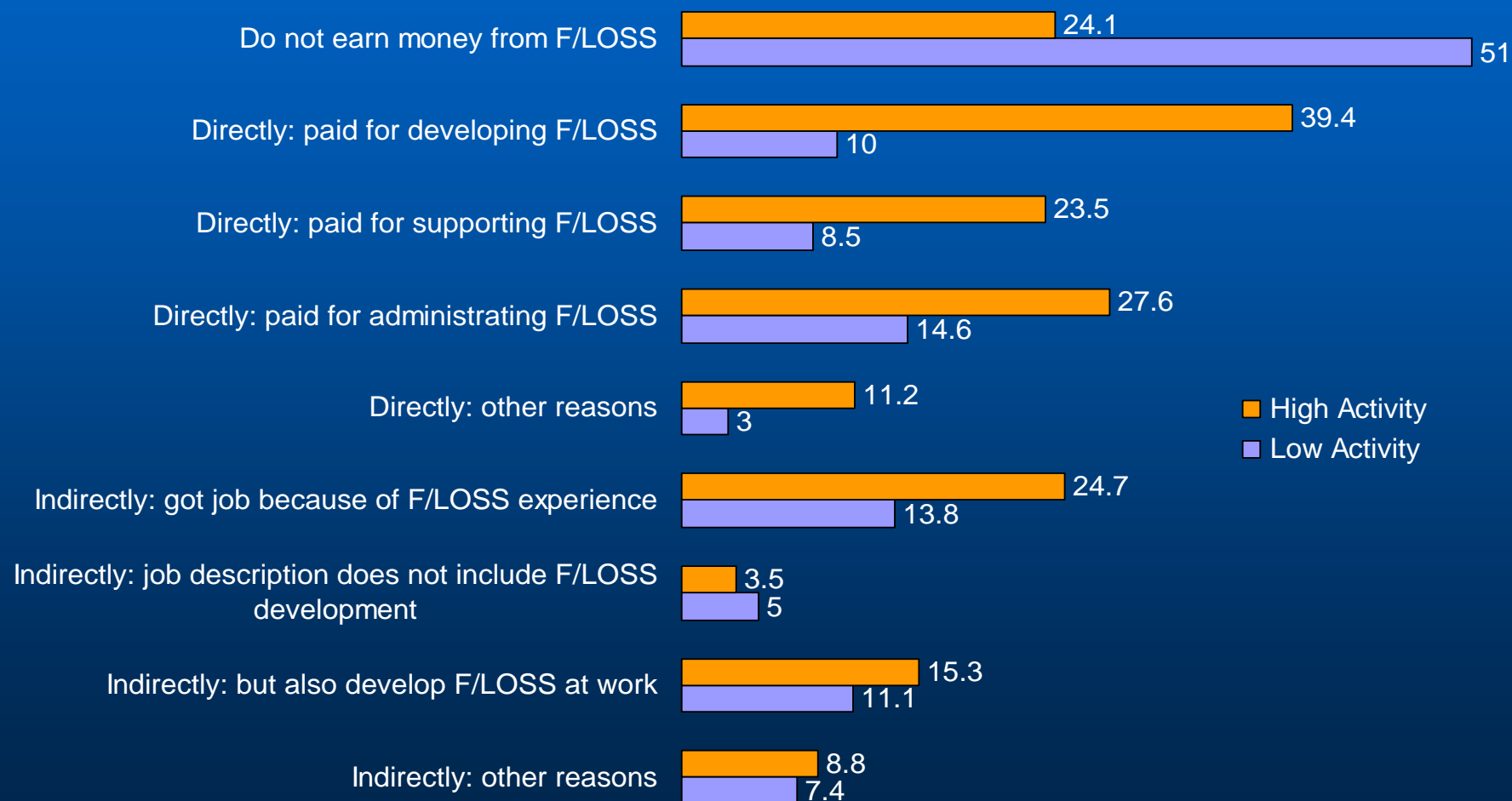
Structure

- Purpose and Methodology
- Characteristics of F/LOSS Developers
- F/LOSS versus Closed Source Software
- Motivations of F/LOSS Developers
- Motivations of F/LOSS and Close Source Software Developers
- Motivations of High and Low Activity F/LOSS Developers

Degrees of Activity in F/LOSS



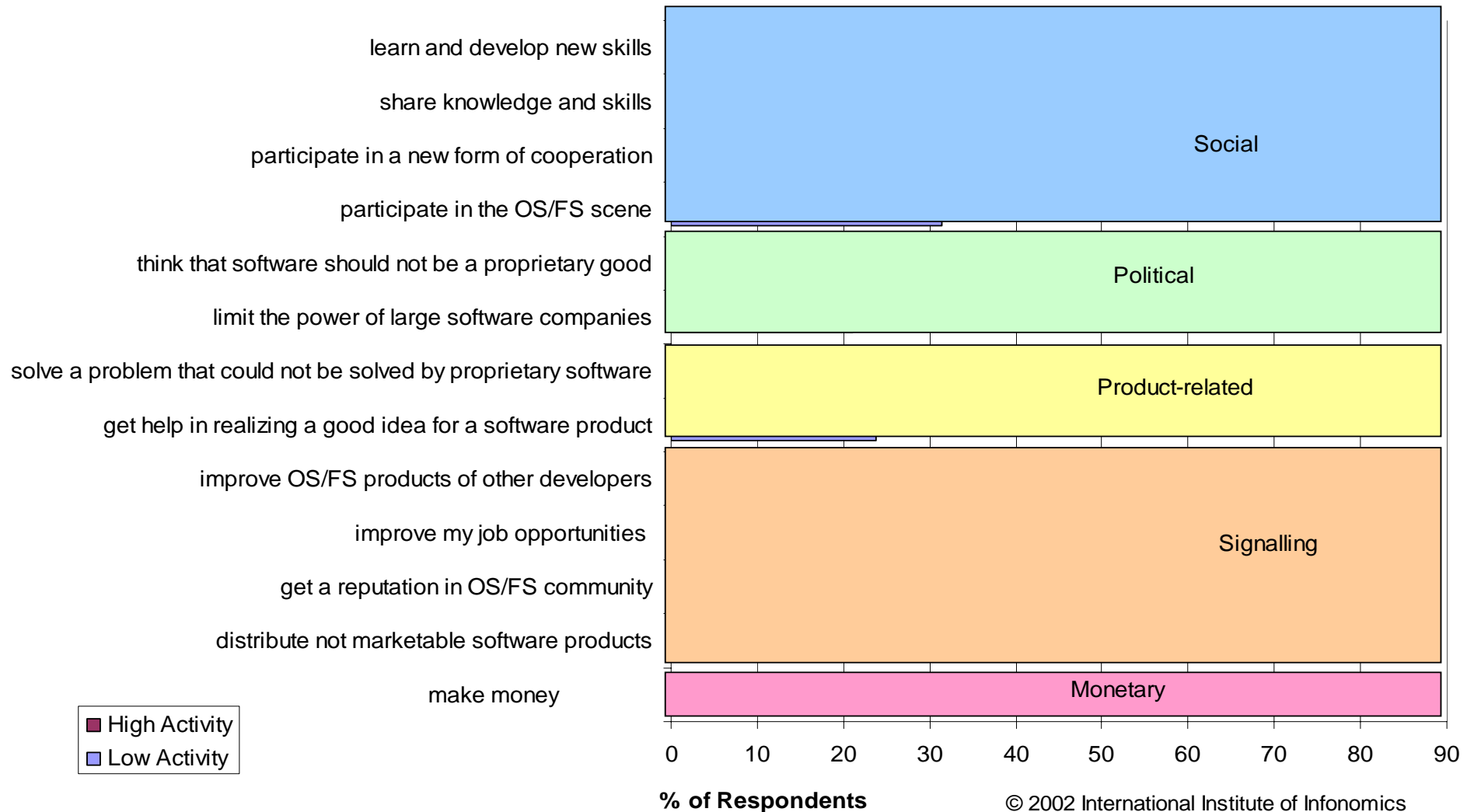
Monetary Rewards from F/LOSS



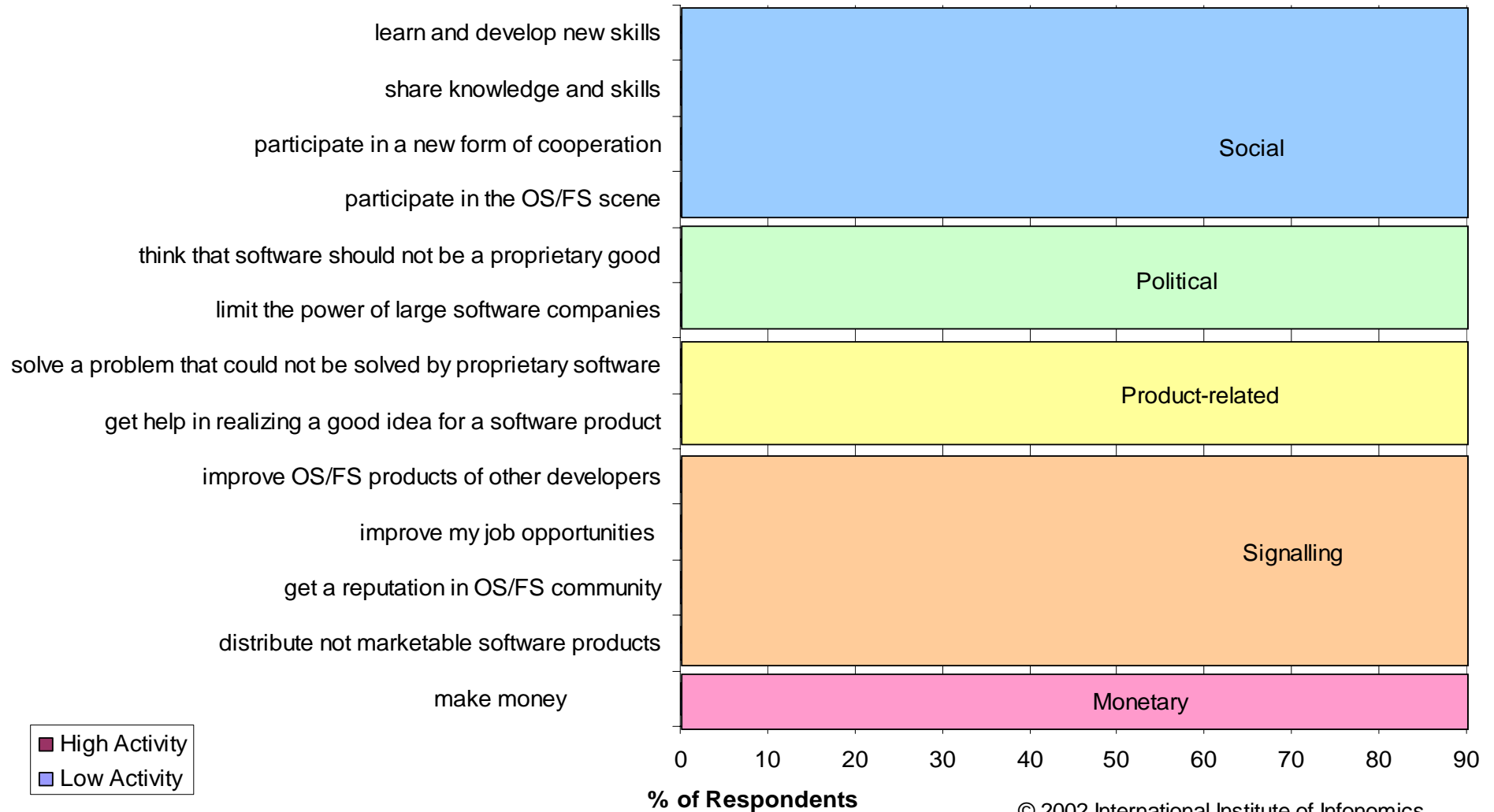
% of Respondents

© 2002 International Institute of Infonomics

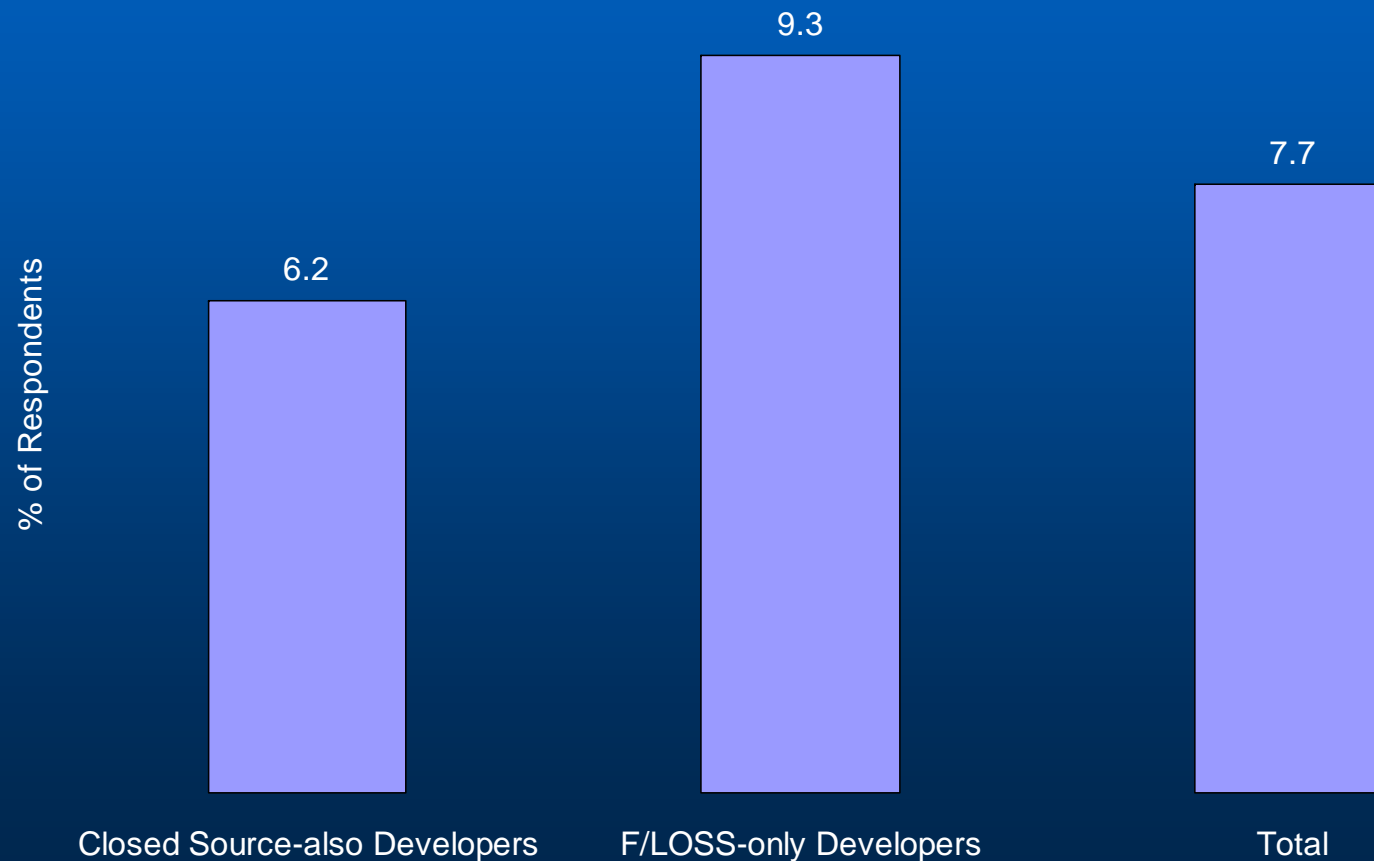
Reasons to Start Developing F/LOSS



Reasons to Continue with Developing F/LOSS



Shares of High Activity Developers in F/LOSS-only and Closed Source- also Developers



References

- FLOSS report:
www.infonomics.nl/FLOSS/report/
- FLOSS workshop, Brussels, Oct 14:
www.infonomics.nl/FLOSS/workshop/