

Tópicos Avançados em E. S. Refatoração

- Testes
- *Bad Smell framework*
- Métricas

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CheckStyle antes

```
private JButton copyClipButton;
private ButtonGroup group;
private JMenuItem undo;
private JMenuItem redo;
private JMenuItem shapeImport;
private JMenuItem scale;
private JLabel mousePosition;
private JLabel path;
private Point temp;
private AbstractShape startShape;
private AbstractShape endShape;
private int currentToggle;
private int startId;
private JFileChooser fc = new JFileChooser();
private boolean empty = true;
private boolean inside = false;
```

CheckStyle depois

```
38     private JButton redoButton;  
39     private JButton copyClip_button;  
40     private ButtonGroup group;  
41     private JMenuItem undo;  
42     private JMenuItem redo;  
43     private JMenuItem shapeImport;  
44     private JMenuItem scale;  
45     private JLabel mouse_position;  
46     private JLabel path;  
47     private Point temp;  
48     private AbstractShape startShape;  
49     private AbstractShape endShape;  
50     private int current_toggle;
```

CheckStyle antes

629

630

```
public JButton getClipButton() {
```

631

```
    return copyClipButton;
```

632

```
}
```

633

634

```
public JLabel getMousePosition() {
```

635

```
    return this.mousePosition;
```

636

```
}
```

CheckStyle depois

```
634 public JButton getClip_button() {  
635     return copyClipButton;  
636 }  
637  
638 /**  
639  *  
640  * @return mouse_position  
641  */  
642 public JLabel getMouse_position() {  
643     return mousePosition;  
644 }
```

CheckStyle antes

```
45      private JLabel mousePositionImgMap;  
  
634  
635  public JLabel getMousePositionImgMap() {  
636      return this.mousePositionImgMap;  
637  }
```

CheckStyle antes

```
19 public class CircleShape extends AbstractShape {  
20     private Point circCent;  
21     private int circR;
```

CheckStyle depois

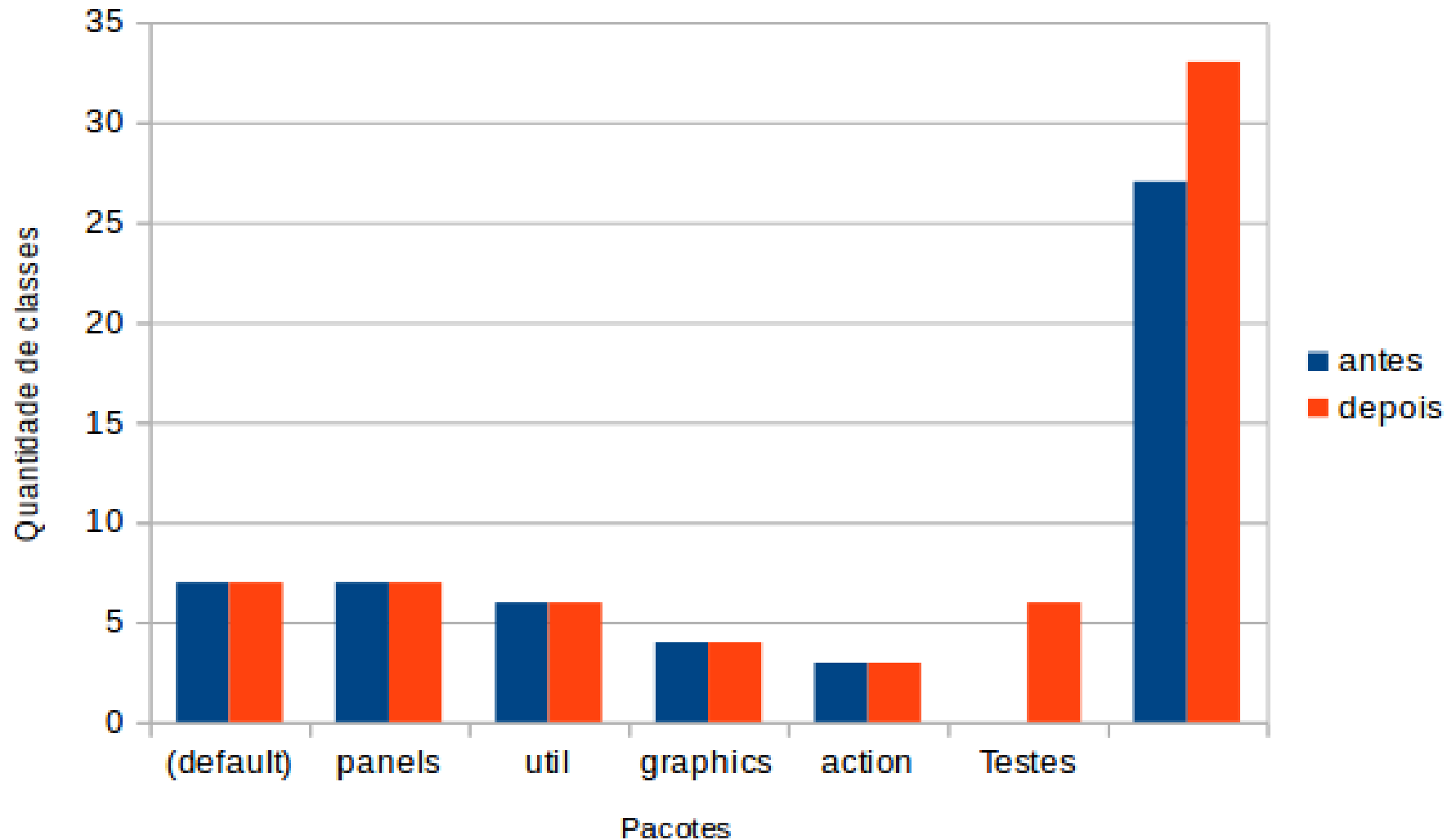
```
19 public class CircleShape extends AbstractShape {  
20     private Point circ_cent;  
21     private int circ_r;  
22 }
```


Testes

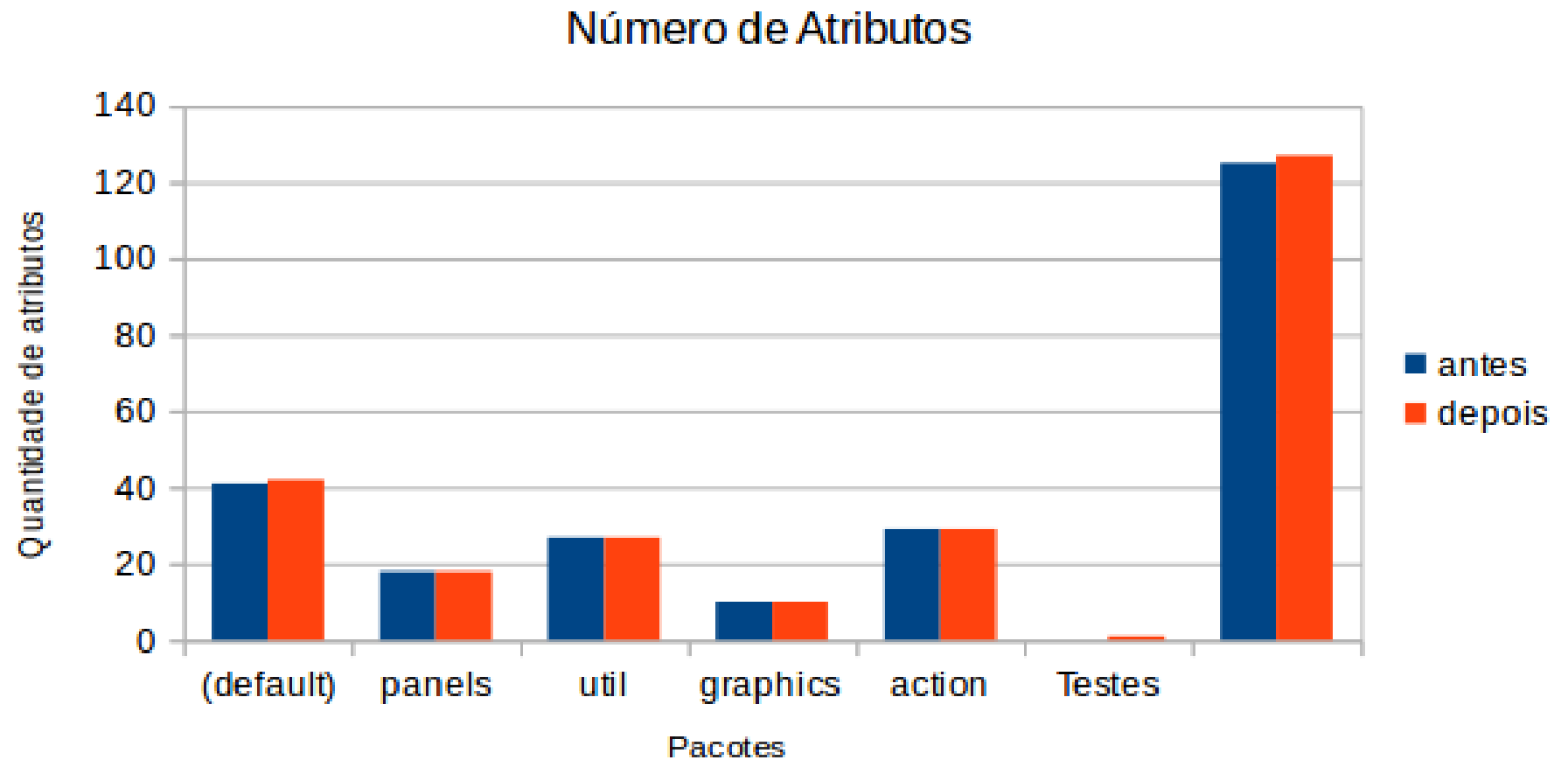
- Ver código

Métricas

Número de Classes

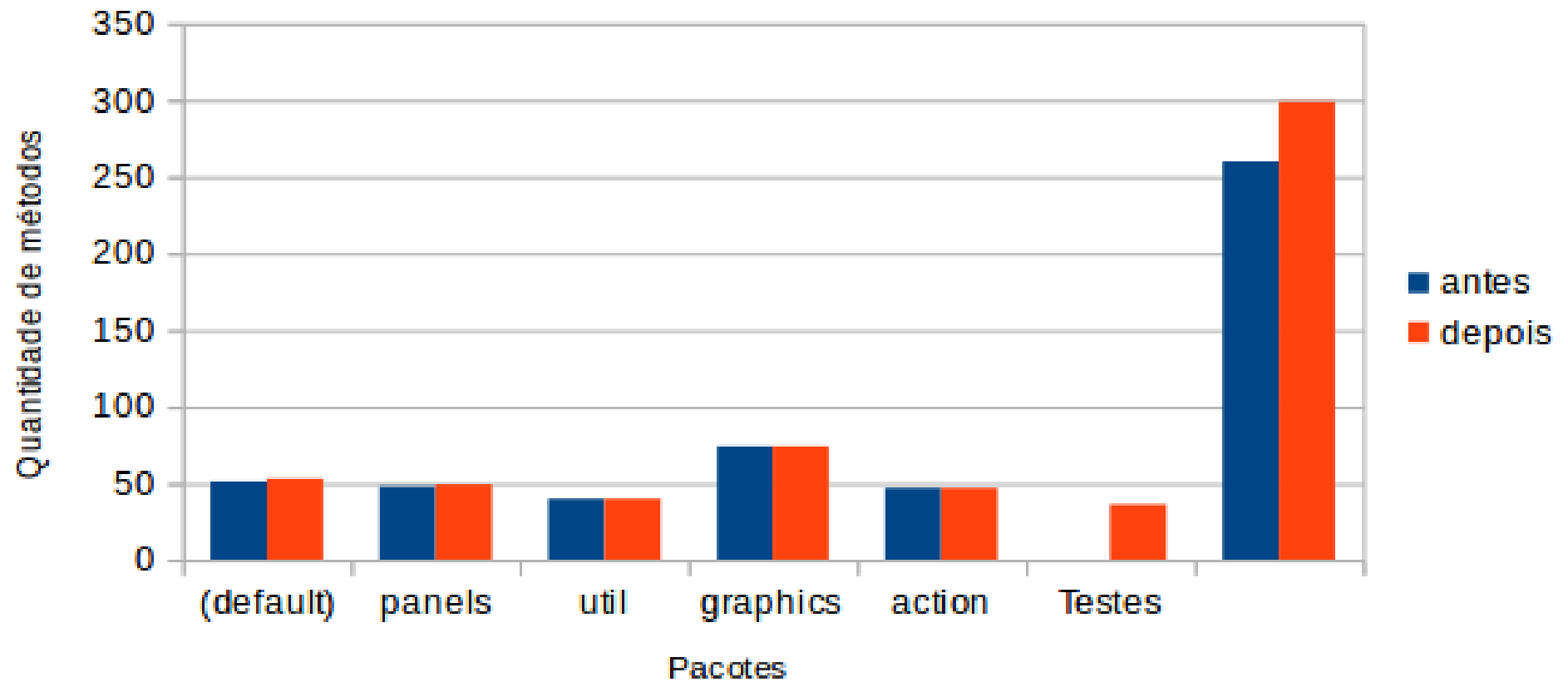


Métricas



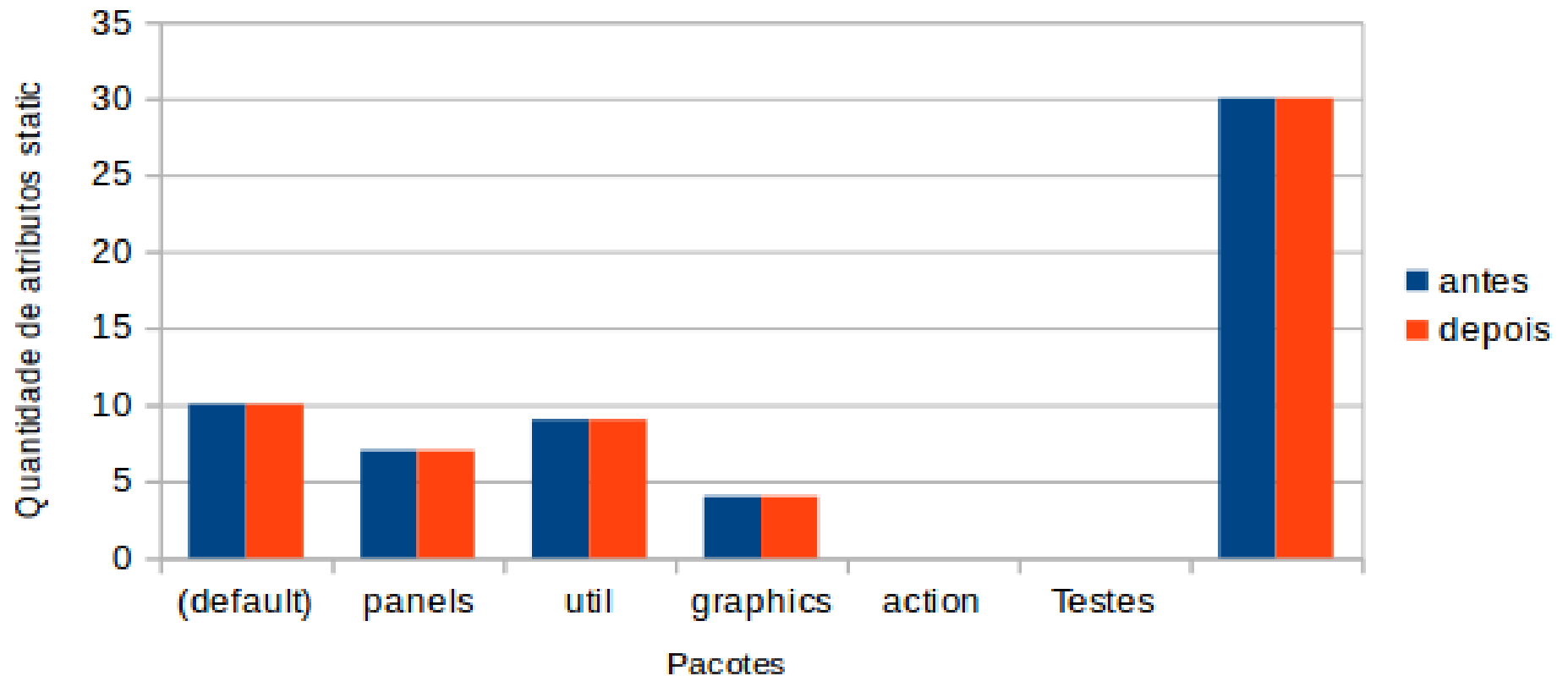
Métricas

Número de Métodos



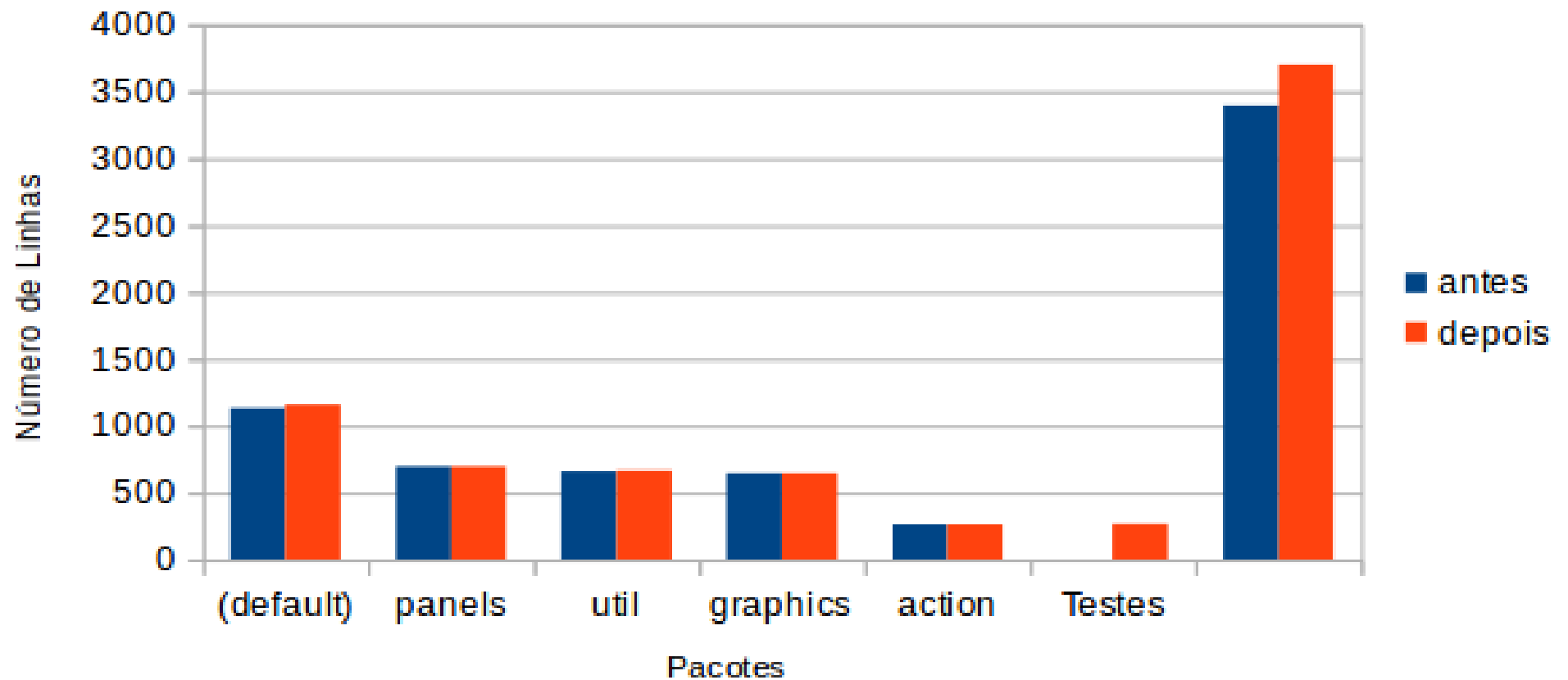
Métricas

Números de atributos static



Métricas

Número de linhas de código



Métricas – Profundidade da árvore de herança

- Antes da refatoração: 6*
- Depois da refatoração: 6*

*Obs.: o *framework* utilizado contabiliza desde a superclasse *Object*.

Métricas – Quantidade de subclasses

- Antes da refatoração: 9
- Depois da refatoração: 3