

# Japan

## Data

[illegible]



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## conversion failure on 'Kōchi' in 'mbcsToSbcs': dot substituted for <c5>
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Vertical dotted lines represent the first seeding day and the epidemic start date.

## Analysis

Number of divergent transitions = 0

Maximum  $\hat{R} = 1.005353$

Minimum Bulk ESS = 1053.962

Minimum Tail ESS = 1125.557

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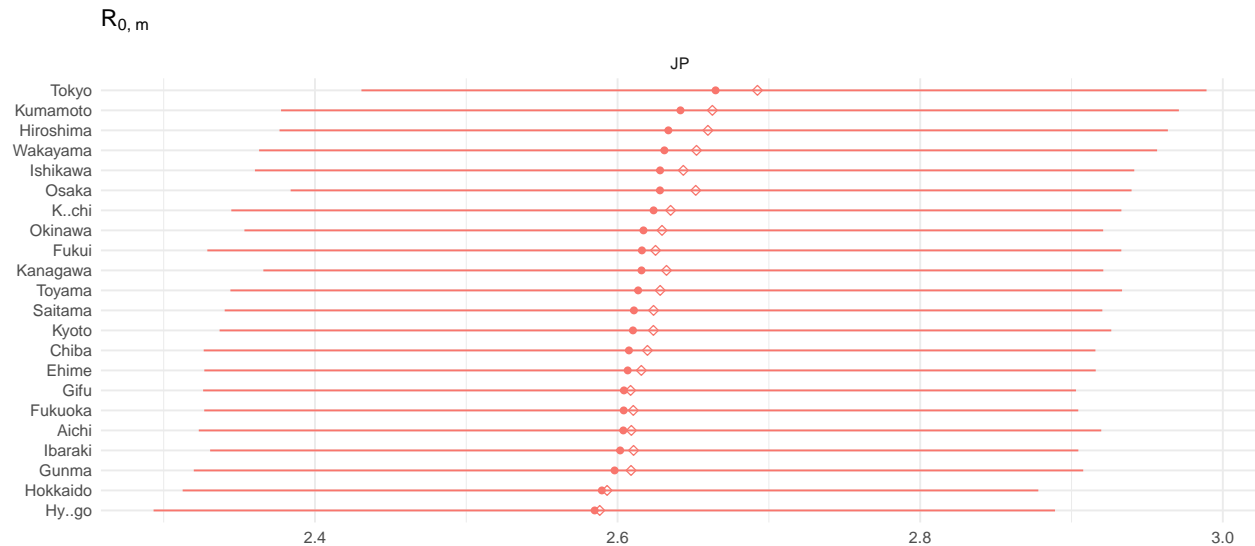
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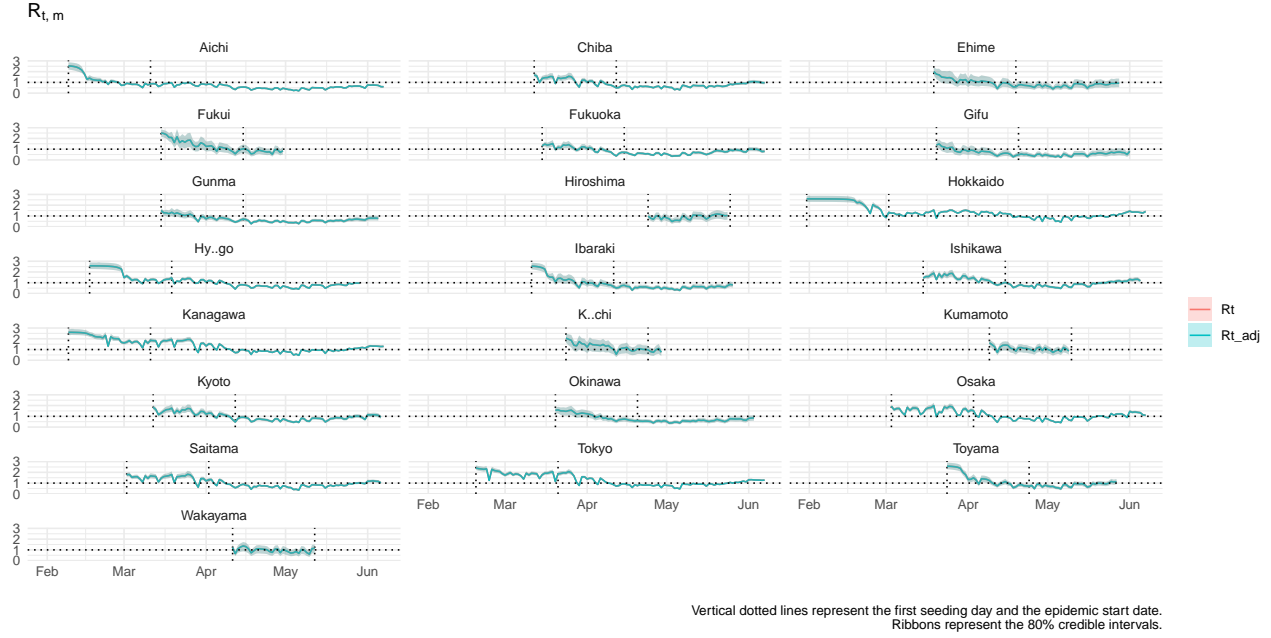
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Contact rate function:

$$cr(t; t^*, \lambda_j, \kappa) = \lambda_j + \frac{1 - \lambda_j}{1 + \exp(\kappa(t - t^*))}$$

where

$$\lambda_j \sim \text{Beta}(3, 1)$$

$$\kappa \sim \text{NegHalfNormal}(0, 1).$$

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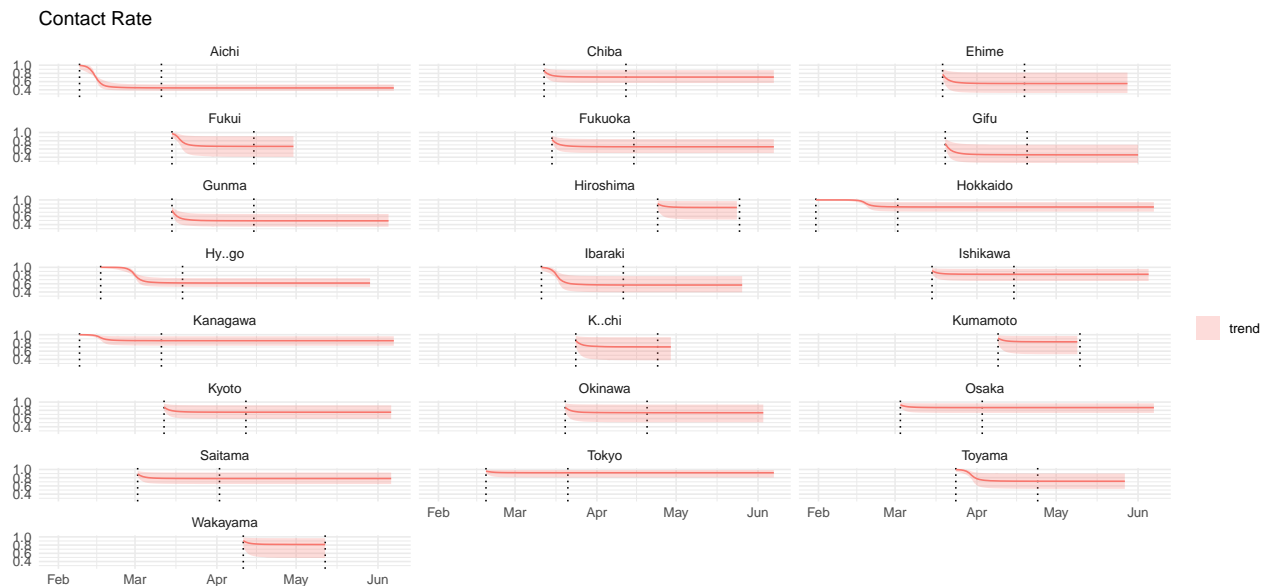
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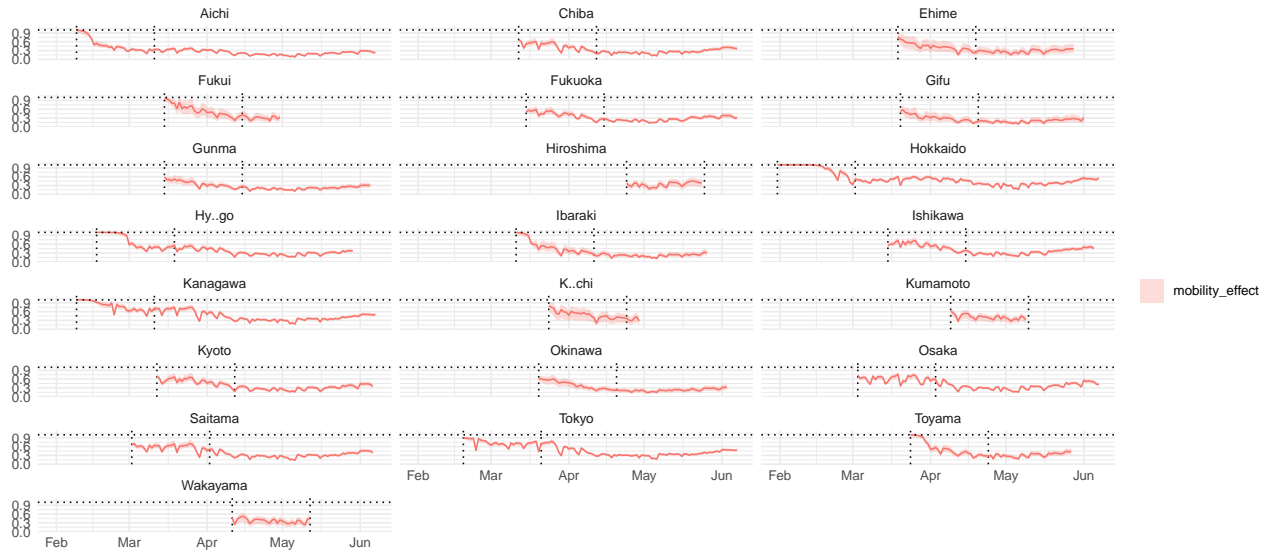
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## Mobility effect



Vertical dotted lines represent the first seeding day and the epidemic start date.  
Ribbons represent the 80% credible intervals.

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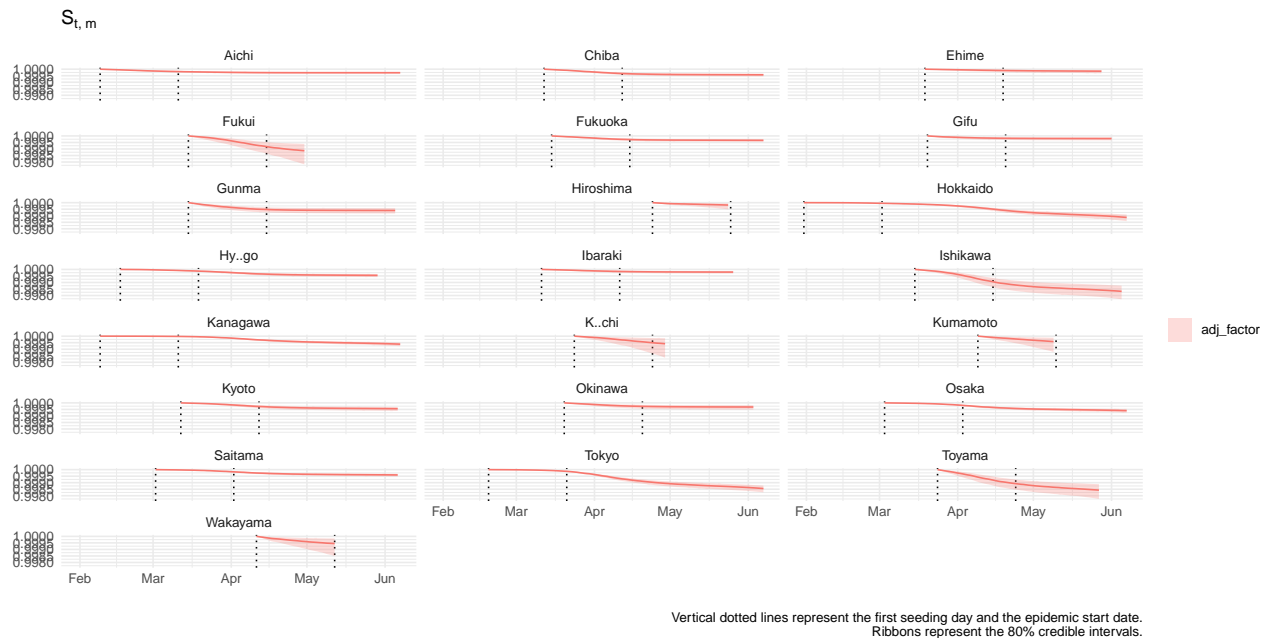
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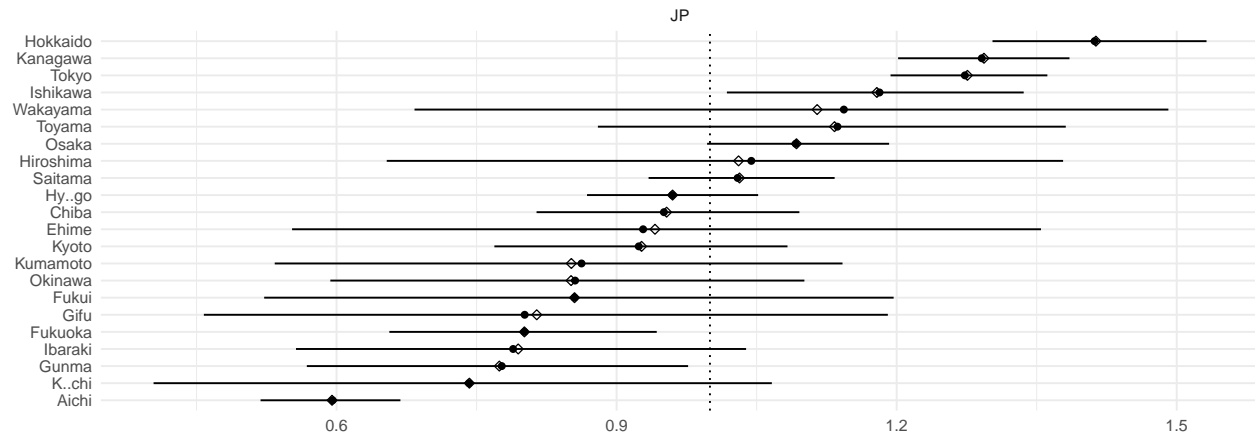
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$R_{t,m}$  on the last day



Mobility linear model:  $\beta_1 \cdot X_{\text{residential}} + \beta_2 \cdot X_{\text{transit}} + \beta_3 \cdot X_{\text{average}}$ .

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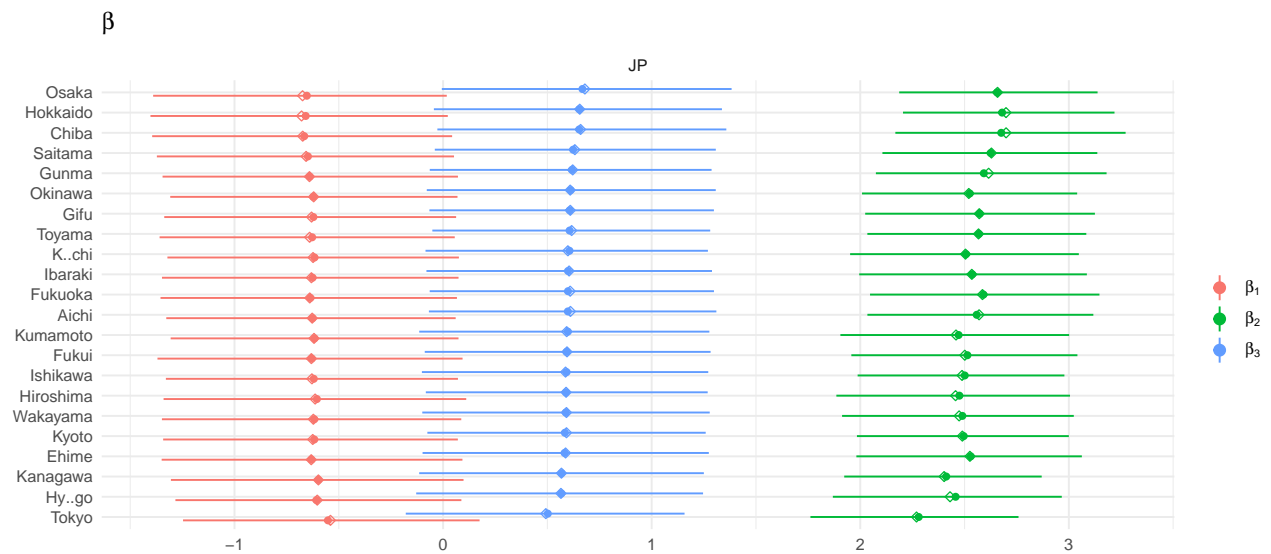
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## Warning in grid.Call.graphics(C_text, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'Kōchi' in 'mbcsToSbcs': dot substituted for <c5>

## Warning in grid.Call.graphics(C_text, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'Kōchi' in 'mbcsToSbcs': dot substituted for <8d>
```



```
## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'Hyōgo' in 'mbcsToSbcs': dot substituted for <c5>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'Hyōgo' in 'mbcsToSbcs': dot substituted for <8d>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'Kōchi' in 'mbcsToSbcs': dot substituted for <c5>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'Kōchi' in 'mbcsToSbcs': dot substituted for <8d>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'Hyōgo' in 'mbcsToSbcs': dot substituted for <c5>

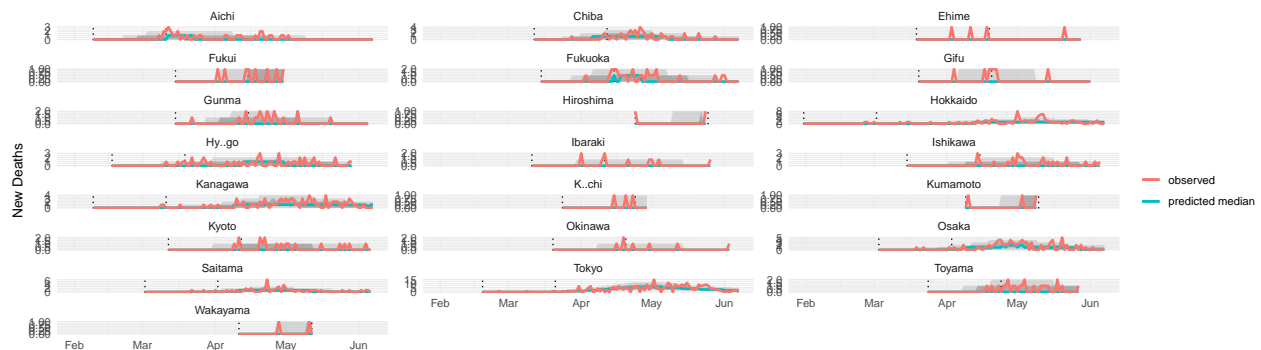
## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'Hyōgo' in 'mbcsToSbcs': dot substituted for <8d>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'Kōchi' in 'mbcsToSbcs': dot substituted for <c5>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'Kōchi' in 'mbcsToSbcs': dot substituted for <8d>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
```

```
## conversion failure on 'Hyōgo' in 'mbcsToSbcs': dot substituted for <c5>
## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'Hyōgo' in 'mbcsToSbcs': dot substituted for <8d>
## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'Kōchi' in 'mbcsToSbcs': dot substituted for <c5>
## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'Kōchi' in 'mbcsToSbcs': dot substituted for <8d>
## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'Hyōgo' in 'mbcsToSbcs': dot substituted for <c5>
## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'Hyōgo' in 'mbcsToSbcs': dot substituted for <8d>
## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'Kōchi' in 'mbcsToSbcs': dot substituted for <c5>
## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'Kōchi' in 'mbcsToSbcs': dot substituted for <8d>
## Warning in grid.Call.graphics(C_text, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'Kōchi' in 'mbcsToSbcs': dot substituted for <c5>
## Warning in grid.Call.graphics(C_text, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'Kōchi' in 'mbcsToSbcs': dot substituted for <8d>
## Warning in grid.Call.graphics(C_text, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'Hyōgo' in 'mbcsToSbcs': dot substituted for <c5>
## Warning in grid.Call.graphics(C_text, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'Hyōgo' in 'mbcsToSbcs': dot substituted for <8d>
```



Solid black line: observed new deaths. Grey ribbon: posterior predicted new deaths.  
Vertical dotted lines represent the first seeding day and the epidemic start date.

```
## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'Hyōgo' in 'mbcsToSbcs': dot substituted for <c5>
## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'Hyōgo' in 'mbcsToSbcs': dot substituted for <8d>
## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'Kōchi' in 'mbcsToSbcs': dot substituted for <c5>
## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'Kōchi' in 'mbcsToSbcs': dot substituted for <8d>
## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'Hyōgo' in 'mbcsToSbcs': dot substituted for <c5>
```

```
## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :  
## conversion failure on 'Hyōgo' in 'mbcsToSbcs': dot substituted for <8d>  
  
## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :  
## conversion failure on 'Kōchi' in 'mbcsToSbcs': dot substituted for <c5>  
  
## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :  
## conversion failure on 'Kōchi' in 'mbcsToSbcs': dot substituted for <8d>  
  
## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :  
## conversion failure on 'Hyōgo' in 'mbcsToSbcs': dot substituted for <c5>  
  
## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :  
## conversion failure on 'Hyōgo' in 'mbcsToSbcs': dot substituted for <8d>  
  
## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :  
## conversion failure on 'Kōchi' in 'mbcsToSbcs': dot substituted for <c5>  
  
## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :  
## conversion failure on 'Kōchi' in 'mbcsToSbcs': dot substituted for <8d>  
  
## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :  
## conversion failure on 'Hyōgo' in 'mbcsToSbcs': dot substituted for <c5>  
  
## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :  
## conversion failure on 'Hyōgo' in 'mbcsToSbcs': dot substituted for <8d>  
  
## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :  
## conversion failure on 'Kōchi' in 'mbcsToSbcs': dot substituted for <c5>  
  
## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :  
## conversion failure on 'Hyōgo' in 'mbcsToSbcs': dot substituted for <8d>  
  
## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :  
## conversion failure on 'Kōchi' in 'mbcsToSbcs': dot substituted for <c5>  
  
## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :  
## conversion failure on 'Hyōgo' in 'mbcsToSbcs': dot substituted for <8d>  
  
## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :  
## conversion failure on 'Kōchi' in 'mbcsToSbcs': dot substituted for <c5>  
  
## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :  
## conversion failure on 'Hyōgo' in 'mbcsToSbcs': dot substituted for <8d>
```

[illegible]

```
## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'Kōchi' in 'mbcsToSbcs': dot substituted for <8d>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'Hyōgo' in 'mbcsToSbcs': dot substituted for <c5>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'Hyōgo' in 'mbcsToSbcs': dot substituted for <8d>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'Kōchi' in 'mbcsToSbcs': dot substituted for <c5>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'Kōchi' in 'mbcsToSbcs': dot substituted for <8d>

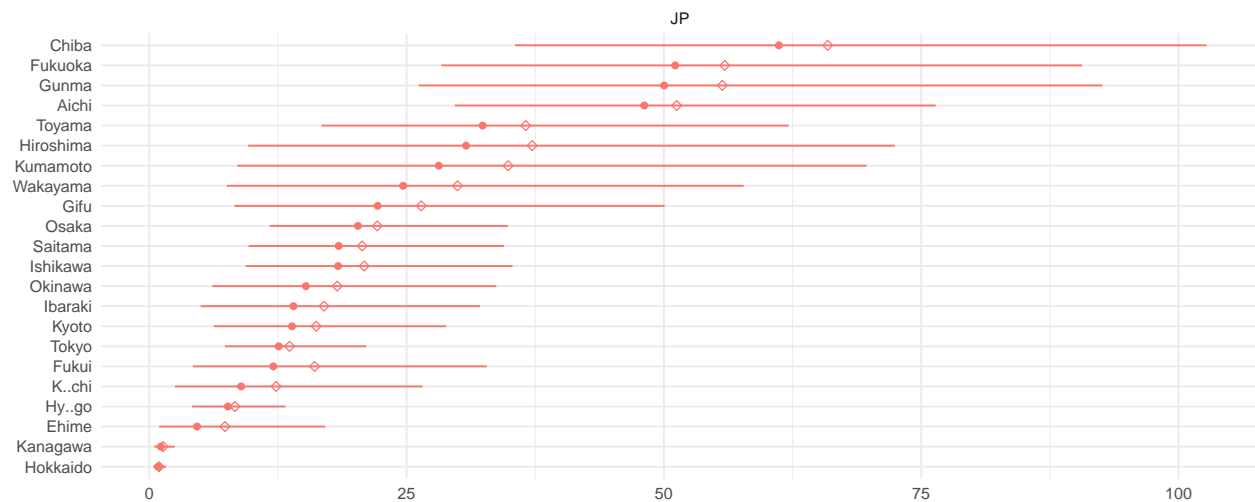
## Warning in grid.Call.graphics(C_text, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'Hyōgo' in 'mbcsToSbcs': dot substituted for <c5>

## Warning in grid.Call.graphics(C_text, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'Hyōgo' in 'mbcsToSbcs': dot substituted for <8d>

## Warning in grid.Call.graphics(C_text, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'Kōchi' in 'mbcsToSbcs': dot substituted for <c5>

## Warning in grid.Call.graphics(C_text, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'Kōchi' in 'mbcsToSbcs': dot substituted for <8d>
```

#### Imputed Cases



```
## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'Kōchi' in 'mbcsToSbcs': dot substituted for <c5>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'Kōchi' in 'mbcsToSbcs': dot substituted for <8d>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'Hyōgo' in 'mbcsToSbcs': dot substituted for <c5>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'Hyōgo' in 'mbcsToSbcs': dot substituted for <8d>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'Kōchi' in 'mbcsToSbcs': dot substituted for <c5>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
```

```
## conversion failure on 'Kōchi' in 'mbcsToSbcs': dot substituted for <8d>  
## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :  
## conversion failure on 'Hyōgo' in 'mbcsToSbcs': dot substituted for <c5>  
## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :  
## conversion failure on 'Hyōgo' in 'mbcsToSbcs': dot substituted for <8d>  
## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :  
## conversion failure on 'Kōchi' in 'mbcsToSbcs': dot substituted for <c5>  
## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :  
## conversion failure on 'Kōchi' in 'mbcsToSbcs': dot substituted for <8d>  
## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :  
## conversion failure on 'Hyōgo' in 'mbcsToSbcs': dot substituted for <c5>  
## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :  
## conversion failure on 'Hyōgo' in 'mbcsToSbcs': dot substituted for <8d>  
## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :  
## conversion failure on 'Kōchi' in 'mbcsToSbcs': dot substituted for <c5>  
## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :  
## conversion failure on 'Kōchi' in 'mbcsToSbcs': dot substituted for <8d>  
## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :  
## conversion failure on 'Hyōgo' in 'mbcsToSbcs': dot substituted for <c5>  
## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :  
## conversion failure on 'Hyōgo' in 'mbcsToSbcs': dot substituted for <8d>  
## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :  
## conversion failure on 'Kōchi' in 'mbcsToSbcs': dot substituted for <c5>  
## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :  
## conversion failure on 'Kōchi' in 'mbcsToSbcs': dot substituted for <8d>  
## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :  
## conversion failure on 'Hyōgo' in 'mbcsToSbcs': dot substituted for <c5>
```

```
## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :  
## conversion failure on 'Hyōgo' in 'mbcsToSbc': dot substituted for <8d>  
  
## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :  
## conversion failure on 'Kōchi' in 'mbcsToSbc': dot substituted for <c5>  
  
## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :  
## conversion failure on 'Kōchi' in 'mbcsToSbc': dot substituted for <8d>  
  
## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :  
## conversion failure on 'Hyōgo' in 'mbcsToSbc': dot substituted for <c5>  
  
## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :  
## conversion failure on 'Hyōgo' in 'mbcsToSbc': dot substituted for <8d>  
  
## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :  
## conversion failure on 'Kōchi' in 'mbcsToSbc': dot substituted for <c5>  
  
## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :  
## conversion failure on 'Kōchi' in 'mbcsToSbc': dot substituted for <8d>  
  
## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :  
## conversion failure on 'Hyōgo' in 'mbcsToSbc': dot substituted for <c5>  
  
## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :  
## conversion failure on 'Hyōgo' in 'mbcsToSbc': dot substituted for <8d>  
  
## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :  
## conversion failure on 'Kōchi' in 'mbcsToSbc': dot substituted for <c5>  
  
## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :  
## conversion failure on 'Hyōgo' in 'mbcsToSbc': dot substituted for <8d>  
  
## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :  
## conversion failure on 'Kōchi' in 'mbcsToSbc': dot substituted for <c5>  
  
## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :  
## conversion failure on 'Hyōgo' in 'mbcsToSbc': dot substituted for <8d>  
  
## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :  
## conversion failure on 'Kōchi' in 'mbcsToSbc': dot substituted for <c5>
```



```
## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'Kōchi' in 'mbcsToSbcs': dot substituted for <c5>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'Kōchi' in 'mbcsToSbcs': dot substituted for <8d>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'Hyōgo' in 'mbcsToSbcs': dot substituted for <c5>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'Hyōgo' in 'mbcsToSbcs': dot substituted for <8d>

## Warning in grid.Call.graphics(C_text, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'Kōchi' in 'mbcsToSbcs': dot substituted for <c5>

## Warning in grid.Call.graphics(C_text, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'Kōchi' in 'mbcsToSbcs': dot substituted for <8d>

## Warning in grid.Call.graphics(C_text, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'Hyōgo' in 'mbcsToSbcs': dot substituted for <c5>

## Warning in grid.Call.graphics(C_text, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'Hyōgo' in 'mbcsToSbcs': dot substituted for <8d>
```

