Financial Repression and Laffer Curves

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  - Direct low-interest lending to the government or a placement of the public debt in captive financial institutions;
  - Moral suasion, direct ownership or board seats in financial institutions;
  - Tightening of the capital requirements with a preferential treatment of public debt (e.g., Basel III), transaction taxes on equities.

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- Modern developed economies: *fiscal stress* and *huge government debt*
- Estimation of revenue from FR (Giovannini and de Melo (1993); Reinhart and Sbrancia (2015))
- FR is an indirect taxation (Reinhart (2012))
- Estimation of Laffer curves (Trabandt and Uhlig (2011))

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- Requirement to hold government bonds in a proportion of asset's portfolio
- However, without financial intermediaries (short-cut)

- Government budget constraint is

$$g_t + R^b b_{t-1} \leq b_t + T_t, \tag{1}$$

where $T_t = \tau^c c_t + \tau^n w_t n_t + \tau^k (r_t - \delta) k_{t-1}$

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- Crucial assumption but useful benchmark

$$b_t \geq \rho (k_t + b_t). \tag{2}$$

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- No FR: $\rho = 0$ or $R^b = \beta^{-1}$.
  FR: $\rho > 0$ and $R^b < \beta^{-1}$.

- The representative household maximizes

$$\max \sum_{t=0}^{\infty} \beta^t \left(u\left(c_t, n_t\right) + V(g_t) \right), \tag{3}$$

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- s.t. (2) and budget constraint (4)

$$\left(1+\tau^c\right) c_t + k_t + b_t \leq \left(1-\tau^n\right) w_t n_t + R_t^k k_{t-1} + R^b b_{t-1}, \tag{4}$$

where $R_t^k = 1 + \left(1-\tau^k\right)\left(r_t - \delta\right)$

Production function is

$$y_t = k_{t-1}^{\theta} n_t^{1-\theta}. \tag{5}$$

Competitive factor markets imply

$$r_t = \theta \frac{y_t}{k_{t-1}}, \tag{6}$$

$$w_t = (1-\theta)\frac{y_t}{n_t}. \tag{7}$$

i Household chooses $\{c_t, n_t, k_t\}_{t=0...\infty}$ to maximize (3) s.t. (2) and (4), taking factor prices $\{w_t, r_t\}_{t=0...\infty}$ and policy variables $\{\tau^h, \tau^k, \tau^c, \rho, R^b\}$ as given;

ii Factor prices are determined by (6) and (7);

iii Government purchases are determined by (1) given $\{\tau^n, \tau^k, \tau^c, \rho, R^b\}$.

Capital rate of return is determined as

$$\overline{r} = \frac{1-\beta}{\beta(1-\tau^k)} + \delta + \frac{\rho}{(1-\rho)(1-\tau^k)}\left(\beta^{-1} - R^b\right). \tag{8}$$

or

$$(1-\rho)\,R^b + \rho R^k = \beta^{-1}. \tag{8'}$$

FR:

- increases $\overline{r}$ and decreases $\overline{w}$;
- decreases $\overline{k/n}$ and $\overline{k/y}$.

Propositions and Corollaries

Proposition (1)

$\overline{c/y}$ increases in R^b $\forall \rho > 0$, increases inρ if $1 - \left(1 - \tau^k\right)\delta < R^b < \beta^{-1}$, and decreases in ρ if $R^b < 1 - \left(1 - \tau^k\right)\delta$.

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Corollary (1)

$\overline{n}$ decreases in R^b $\forall \rho > 0$, decreases in ρ if $1 - \left(1 - \tau^k\right)\delta < R^b < \beta^{-1}$ and increases in ρ if $R^b < 1 - \left(1 - \tau^k\right)\delta$.

Proposition (2)

1. $\overline{y}$ *increases in* R^b *if* $\frac{\theta}{1-\theta} > \frac{\varphi}{1+\varphi-\epsilon_{\frac{\overline{c}}{w}}} A$ *and decreases otherwise, where* A *is a ratio of asset's income to all income, and* $\epsilon_{\frac{\overline{c}}{w}}$ *is a cross-elasticity of consumption w.r.t. wage.*
2. $\overline{k}$ *increases in* R^b *if* $\frac{1}{1-\theta} > \frac{\varphi}{1+\varphi-\epsilon_{\frac{\overline{c}}{w}}} A$ *and decreases otherwise.*
3. *Both* $\overline{y}$ *and* $\overline{k}$ *decrease in* ρ *if* $1-\left(1-\tau^k\right)\delta < R^b < \beta^{-1}$.
4. *If* $R^b < 1-\left(1-\tau^k\right)\delta$ *, then* $\overline{y}$ *decreases in* ρ *only when* $\frac{\theta}{1-\theta} > (1-\rho)\frac{1-\delta(1-\tau^k)-R^b}{1/\beta-R^b}\frac{\varphi}{1+\varphi-\epsilon_{\frac{\overline{c}}{w}}} A$ *and increases otherwise.*
5. *If* $R^b < 1-\left(1-\tau^k\right)\delta$ *, then* $\overline{k}$ *decreases in* ρ *only when* $\frac{1}{1-\theta} > (1-\rho)\frac{1-\delta(1-\tau^k)-R^b}{1/\beta-R^b}\frac{\varphi}{1+\varphi-\epsilon_{\frac{\overline{c}}{w}}} A$ *and increases otherwise.*

Proposition (3)

1. *Consumption taxes* $\overline{T}^c$ *increases in* R^b *if* $\frac{\theta}{1-\theta} + \frac{1-\epsilon\frac{\overline{c}}{w}}{1+\varphi-\epsilon\frac{\overline{c}}{w}} A > 0$ *and decreases otherwise, where* A *is given in proposition 2.*
2. *Consumption taxes* $\overline{T}^c$ *decreases in* ρ *if* $\frac{\theta}{1-\theta} + (1-\rho)\frac{1-\epsilon\frac{\overline{c}}{w}}{1+\varphi-\epsilon\frac{\overline{c}}{w}} \frac{1-\delta\left(1-\tau^k\right)-R^b}{1/\beta-R^b} A > 0$ *and increases otherwise.*
3. *Capital taxes increases in* R^b *if* $\frac{\theta}{1-\theta} - \frac{\varphi}{1+\varphi-\epsilon\frac{\overline{c}}{w}} A > \frac{\delta\beta\left(1-\tau^k\right)(1-\rho)}{(1-\beta)(1-\rho)+\beta\rho\left(1/\beta-R^b\right)}$ *and decreases otherwise.*
4. *Capital taxes decreases in* ρ *if* $\frac{\theta}{1-\theta} - (1-\rho)\frac{1-\delta\left(1-\tau^k\right)-R^b}{1/\beta-R^b}\frac{\varphi}{1+\varphi-\epsilon\frac{\overline{c}}{w}} A > \frac{\delta\beta\left(1-\tau^k\right)(1-\rho)}{(1-\beta)(1-\rho)+\beta\rho\left(1/\beta-R^b\right)}$ *and decreases otherwise.*
5. *Labor taxes increases if output increases and vice versa.*

	τ^c	τ^k	τ^h	θ	δ
USA	0.05	0.36	0.28	0.35	0.08
EU-14	0.17	0.33	0.41	0.38	0.07

	β	ρ	R^b
USA	0.99	0.18	0.99
EU-14		0.18	

Note: the choice of ρ's corresponds to public debt to GDP ratio of 0.96 for USA and 0.84 for EU-14 estimated for the period 2008-2015 using AMECO database.

Fig. 1(a) Capital Tax Laffer Curves

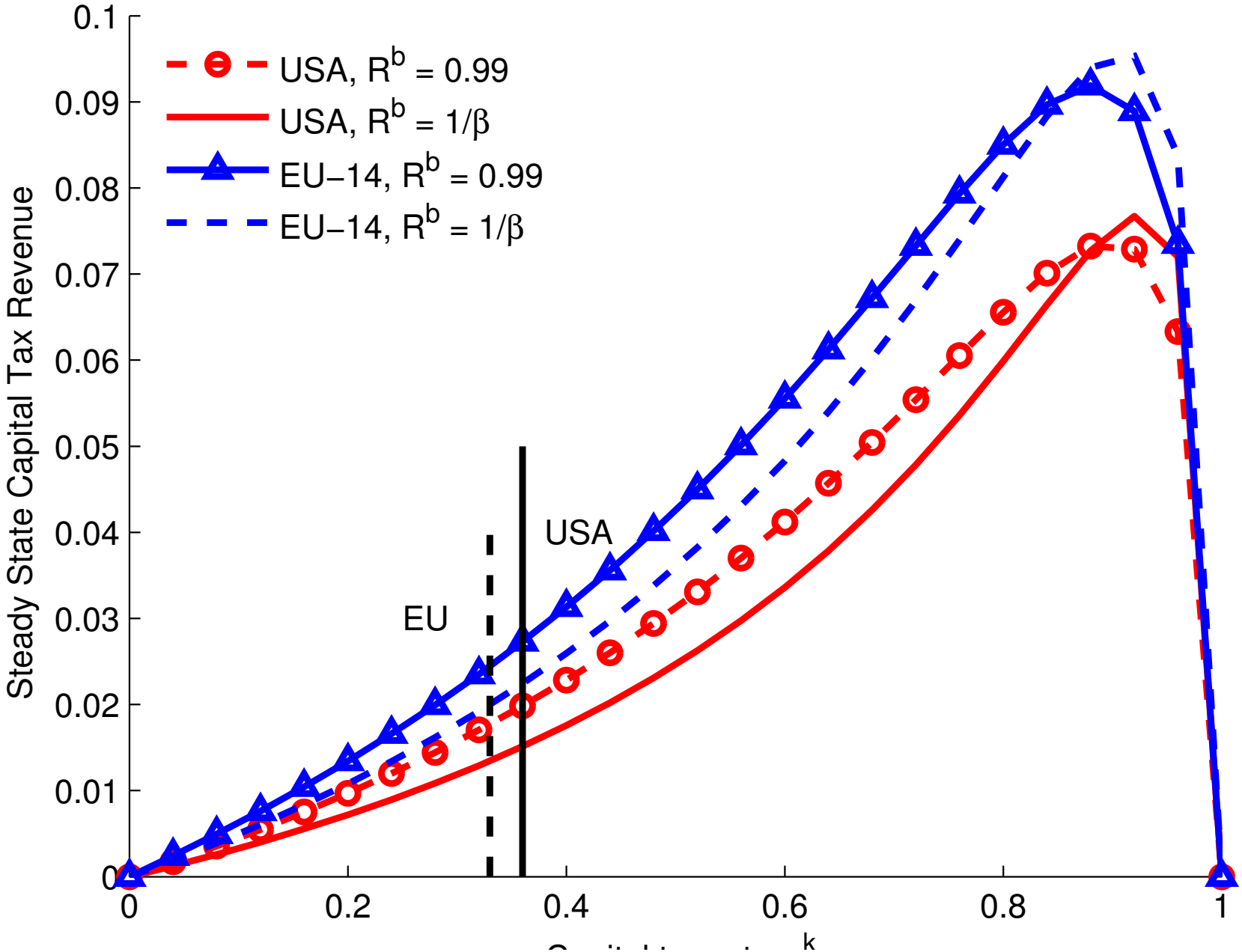


Fig. 1(b) Labor Tax Laffer Curves

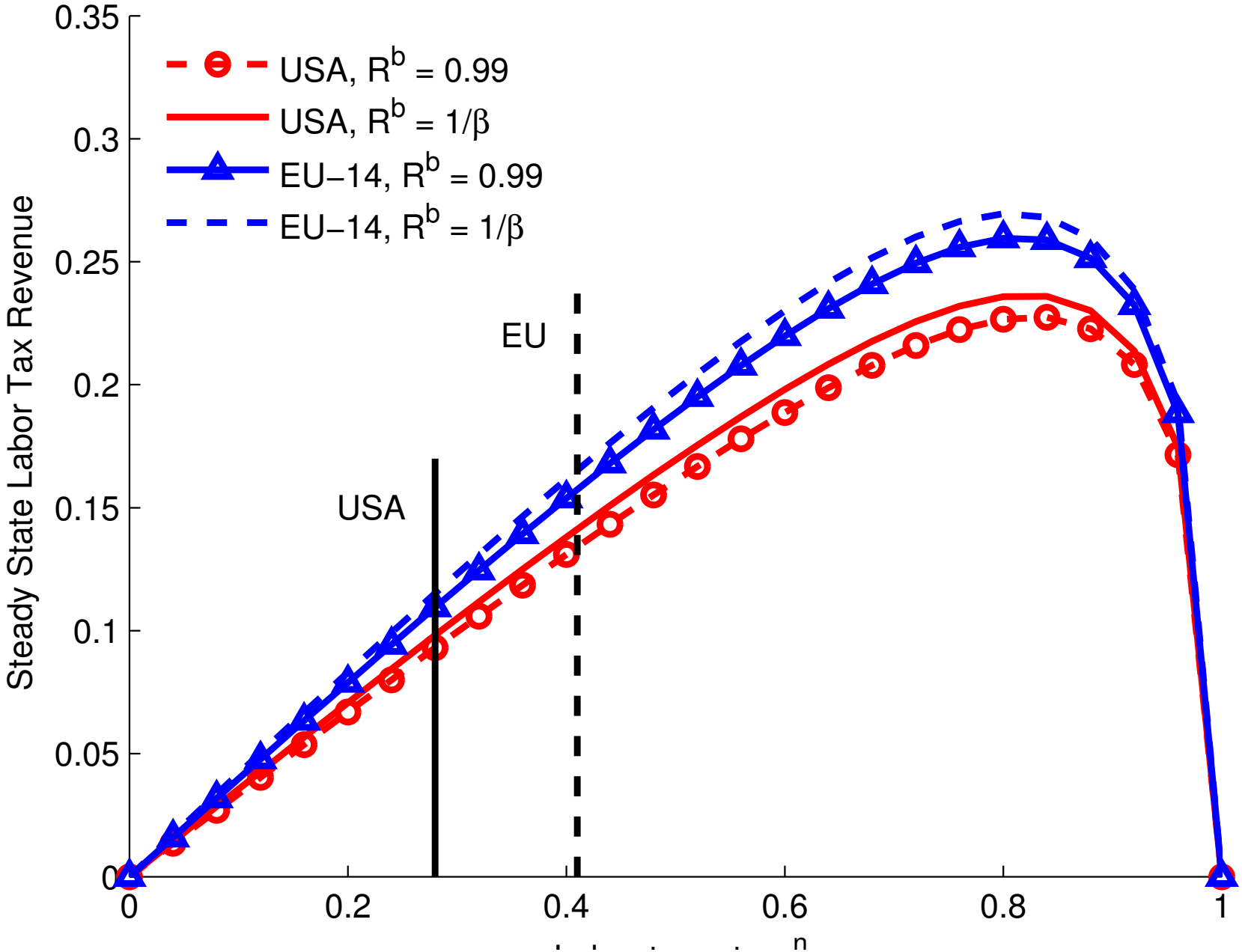
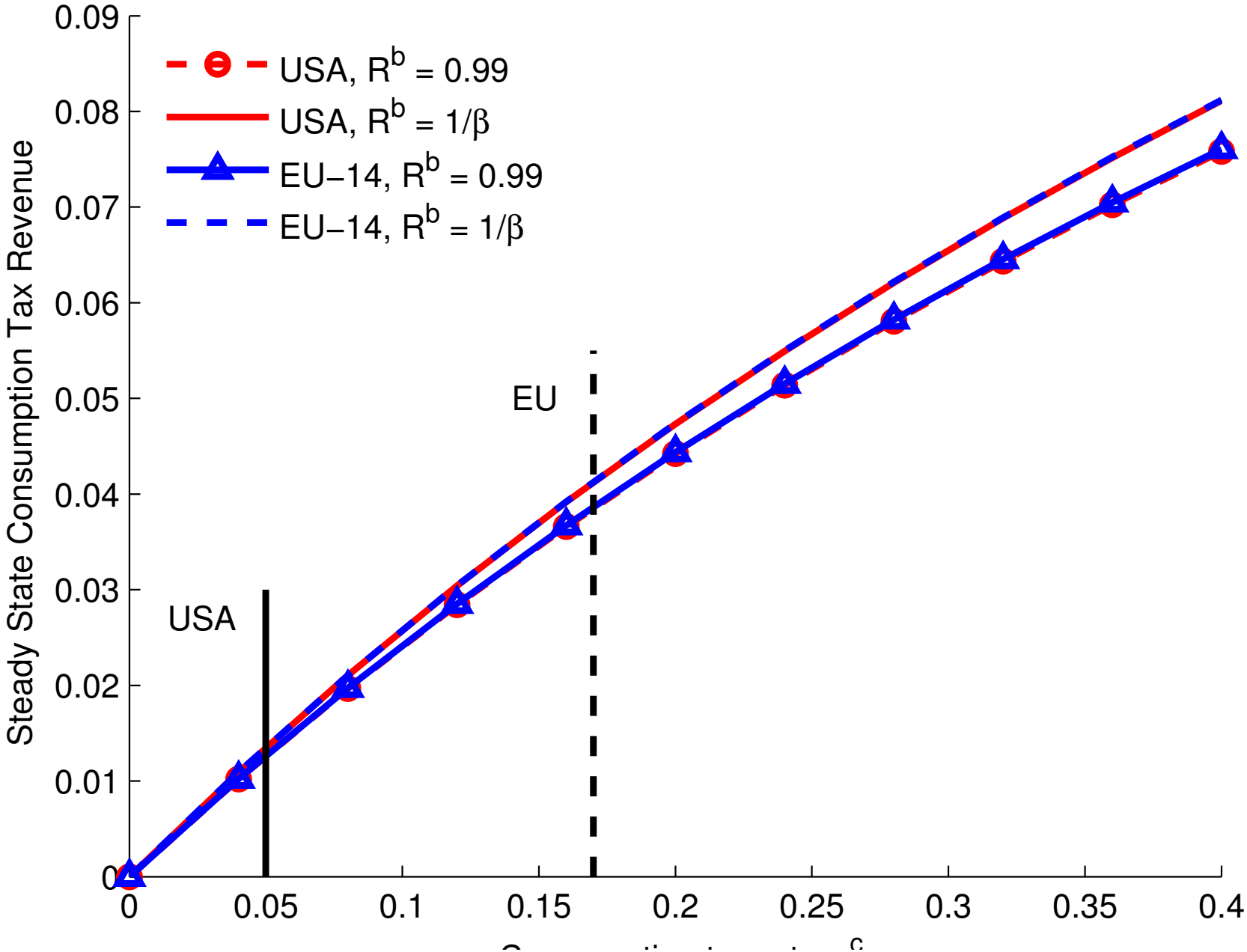


Fig. 3(a) Consumption Tax Laffer Curves



- Government budget constraint in steady-state:

$$\overline{g} = \left(1 - R^b\right) \overline{b} + \overline{T}$$

or

$$\overline{g} + \left(\beta^{-1} - 1\right) \overline{b} = \left(\beta^{-1} - R^b\right) \overline{b} + \overline{T}.$$

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- Net Revenue and Gross Revenue from FR:

$$\left(\beta^{-1} - R^b\right) \overline{b} \text{ and } \left(1 - R^b\right) \overline{b}.$$

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- Liquidation effect for USA is 2.4% of GDP and Reinhart and Sbrancia (2015) – 1.9%.

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  - FR can induce higher labor supply, higher output and tax revenues (but this rests on unrealistic parameters)

- We study the impact of FR in general equilibrium
  - FR distorts cosumption-saving and labor-leisure decisions
  - FR can induce higher labor supply, higher output and tax revenues (but this rests on unrealistic parameters)
- We estimate the revenue from FR and its impact on ordinary taxes
  - tighter FR shifts Laffer curves for consumption and labor taxes down, but increases the revenue from capital income tax;
  - if the revenue from FR finances valuable public goods, it can be welfare-improving notwithstanding it decreases output.