OESTERREICHISCHE NATIONALBANK
EUROSYSTEM

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Beggar-thy-neighbor in macroprudential policy? Cross-border impact assessment of the Austrian Systemic Risk Buffer

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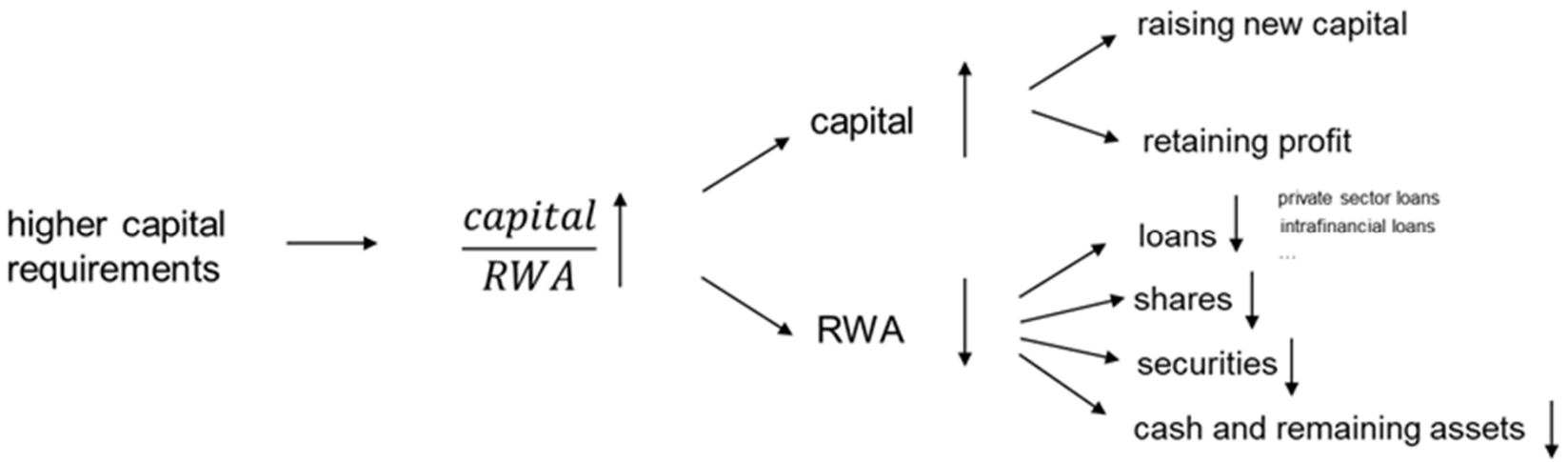
Introduction

1. Impact of macroprudential capital buffers on banks
2. The Opportunity Cost Approach (OCA)
3. The OCA applied: ex-ante cross border impact assessment of the Austrian SyRB
4. Ex-post assessment

Impact of macroprudential capital buffers on banks I

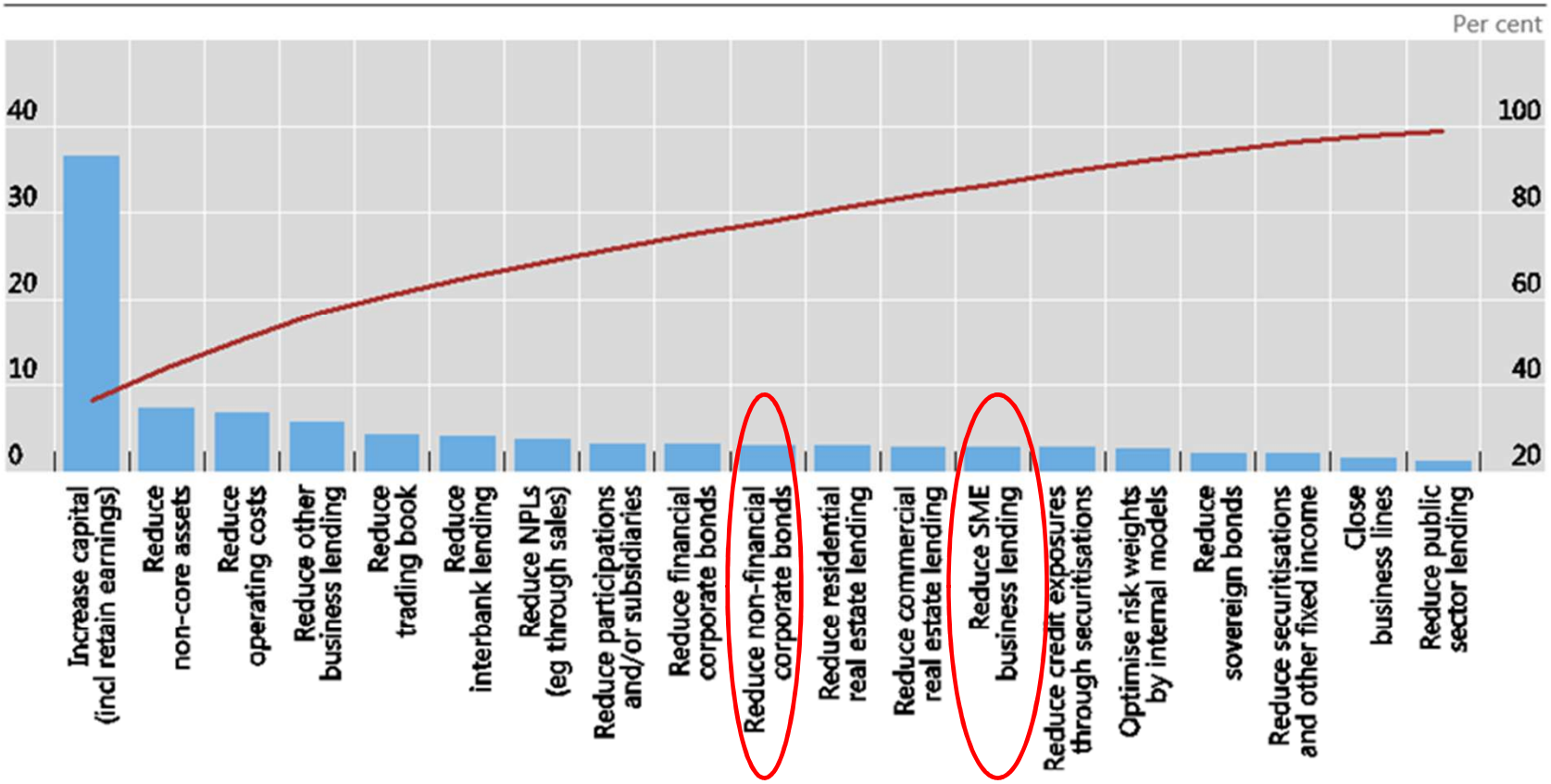
Banks have manifold options to adapt to higher capital requirements …



Source: OeNB

Impact of macroprudential capital buffers on banks II

…and make use of many different options.



Note: The blue bars are the marginal contribution of each categories to reach the target management Tier 1 capital buffer (left axis). The red line is the cumulative contribution of all categories (right axis).

Source: Basel Committee on Banking Supervision.

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Impact of macroprudential capital buffers on banks III

Banks react to macroprudential buffers mainly via

- increasing capital
- reducing interbank lending
- reducing non-core businesses

→ Impact on the real economy via lending to nonfinancial firms and households is small.

→ Consideration of the transmission channel through which the prudential capital measures work:

- Pricing of assets and liabilities is key in banks' management
- Price-based dynamic balance sheet framework needed

The Opportunity Cost Approach (OCA): 4-step approach

1. step: capital gap estimation

2. step: opportunity cost estimation (per unit)

3. step: estimation of pass through to spreads / interest rates

4. step: estimation of macroeconomic effects

(1) The difference of required capital ratio and planned/current capital ratio. An option is also to take the management buffer into account.

(2) Under the assumption of a constant balance sheet, the additional capital displaces the most expensive debt. Opportunity costs are calculated as difference between the cost of debt and the cost of equity.

(3) The opportunity costs are passed through to lending rates where banks have pricing power. This leads to higher lending rates.

(4) Higher interest rates can be used as an input for the country‘s macroeconomic forecasting model and so to calculate the impact on macro variables, e.g. GDP.

The Opportunity Cost Approach (OCA): potential considerations

Further effects in step 2: calculating the opportunity cost

- Tax effects can be included: favorable tax treatment of debt compared to equity
- Modigliani-Miller Theorem can be taken into account:
    - *states that in a "perfect" world, bank leverage, i.a. the share of capital banks hold, does not affect the bank's overall financing cost – under the constant balance sheet assumption.*

The OCA applied: ex-ante cross-border impact assessment of the Austrian SyRB

- SyRB was introduced in 2016 (announced in 2015) for 12 banks
  - phase-in period until 2019
- Four of the banks have substantial cross-border business

Step 1: Capital gap

- Capital Gap: 2 scenarios
  - additional requirement until 2019: EUR 3 bn
  - constant Management Buffer: EUR 6.5 bn
- Allocation of capital to the foreign subsidiaries: 2 approaches
  - according to the share of total assets
  - according to the share of expected profit

The OCA applied: ex-ante cross-border impact assessment of the Austrian SyRB

Step 2: opportunity cost

- Difference of Debt and Equity for all countries 10 percentage points
- Opportunity costs for 2016: EUR 2mn to 156 mn (scenario 1 and 2)

Step 3: pass-through of the costs

- Calculating the re-priceable volume for each country
- Every year new loans are re-priceable
- Based on reporting data in Austria we estimate the amount for the other countries

Step 4: macroeconomic effects

- We received the elasticities for almost all included countries to estimate the impact on GDP growth per country.

Ex-ante cross-border impact assessment of the Austrian SyRB: results

Estimated GDP- Effect of Austrian's SyRB
scenario 1: effective capital shortage
allocation according to:

	total assets		*expected return*	
	2016	*2019*	*2016*	*2019*
AL	+0.00bp	-0.44bp	+0.00bp	+0.00bp
AT	-0.01bp	-0.05bp	-0.01bp	-0.03bp
BA	-0.09bp	-0.38bp	-0.20bp	-0.55bp
BG	+0.00bp	-0.01bp	+0.00bp	-0.02bp
BY	+0.00bp	-0.10bp	+0.00bp	-0.39bp
CZ	-0.01bp	-0.05bp	-0.01bp	-0.05bp
HR	-0.01bp	-0.11bp	-0.01bp	-0.09bp
HU	-0.01bp	-0.06bp	+0.00bp	-0.03bp
MD	n.a	n.a	n.a	n.a
ME	+0.00bp	+0.00bp	+0.00bp	+0.00bp
MK	+0.00bp	+0.00bp	+0.00bp	+0.00bp
PL	+0.00bp	-0.01bp	+0.00bp	-0.00bp
RO	+0.00bp	-0.13bp	+0.00bp	-0.13bp
RS	-0.04bp	-0.19bp	-0.05bp	-0.30bp
RU	+0.00bp	-0.02bp	+0.00bp	-0.05bp
SI	-0.03bp	-0.07bp	-0.01bp	-0.01bp
SK	-0.01bp	-0.14bp	+0.00bp	-0.11bp
TR	+0.00bp	+0.00bp	+0.00bp	+0.00bp
UA	+0.00bp	-0.08bp	+0.00bp	-0.40bp
XK	n.a	n.a	n.a	n.a

Estimated GDP- Effect of Austrian's SyRB
scenario 2: capital shortage with constant management buffers
allocation according to:

	total assets		*expected return*	
	2016	2019	2016	2019
AL	-0.87bp	-0.65bp	+0.00bp	+0.00bp
AT	-0.49bp	-0.47bp	-0.32bp	-0.31bp
BA	-1.05bp	-0.71bp	-1.62bp	-1.05bp
BG	-0.06bp	-0.05bp	-0.14bp	-0.11bp
BY	-0.17bp	-0.15bp	-0.65bp	-0.57bp
CZ	-0.59bp	-0.37bp	-0.64bp	-0.40bp
HR	-0.87bp	-0.73bp	-0.32bp	-0.27bp
HU	-0.27bp	-0.21bp	-0.35bp	-0.28bp
MD	n.a	n.a	n.a	n.a
ME	+0.00bp	+0.00bp	-0.45bp	-0.32bp
MK	-0.12bp	-0.09bp	-0.08bp	-0.07bp
PL	-0.02bp	-0.01bp	-0.01bp	-0.00bp
RO	-0.79bp	-0.62bp	-0.78bp	-0.61bp
RS	-0.75bp	-0.53bp	-1.59bp	-1.15bp
RU	-0.09bp	-0.07bp	-0.19bp	-0.15bp
SI	-0.27bp	-0.22bp	-0.11bp	-0.09bp
SK	-0.55bp	-0.40bp	-0.46bp	-0.34bp
TR	-0.13bp	-0.13bp	-0.25bp	-0.26bp
UA	-0.29bp	-0.20bp	-0.84bp	-0.59bp
XK	n.a	n.a	n.a	n.a

Source : OeNB, own calcualtion

→ Introduction of Austrian SyRB has only a negligible impact on the respective economies (cross-border and domestic) .

Ex-post Assessment confirms ex-ante results

We use a fixed effects panel model of the following form

$$Y_{i,t} = \alpha_i + \sum \beta \, X_{i,t} + \varepsilon_{i,t}$$

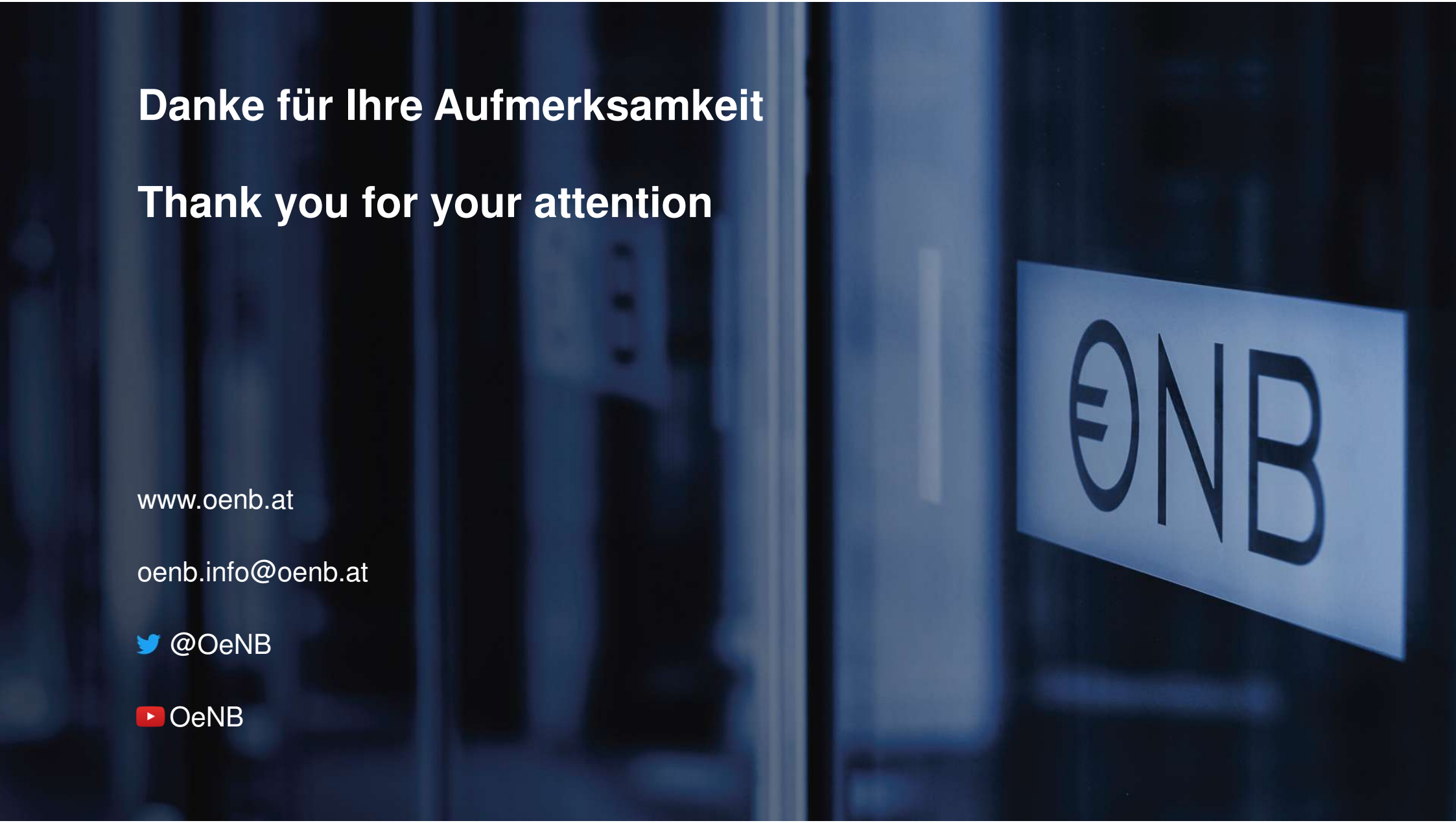
→ Our results confirm the ex-ante results of no significant impact of the Austrian SyRB to lending to the real economy.

	Dependent variable:
	growth_loans_non_MFIs
GDP	1.254***
	(0.370)
unemployment_rate	−0.530
	(0.332)
National_credit_growth_lag2	0.440***
	(0.144)
CET1_ratio	0.029
	(0.027)
impairment_ratio	−1.326**
	(0.603)
period_result_ratio	1.402***
	(0.511)
interbank_liabilities_ratio	0.004
	(0.067)
growth_deposits_non_MFIs	0.450***
	(0.041)
Total_assets_bn	−0.003**
	(0.001)
SyRB_AT	1.134
	(1.876)
Buffer_National	0.602
	(0.939)
country dummies	
	...
Number of Observations	
3645	
Number of Groups	
81	
Obs per group: min	
45	
Obs per group: avg	
45	
Obs per group: max	
45	
Note:	*p<0.1; **p<0.05; ***p<0.01

Conclusion

- Careful cost-benefit analysis bevor setting a macroprudential measure is crucial

  … taking into account potential unintended cross-border effects
- Deleveraging is not the only option when additional capital is needed
- Quantity-based approaches overestimate the impact on lending
- Price-based impact more likely
- For the Austrian case of the SyRB
  - Ex-ante impact small (cross-border and domestic)
  - Ex-post assessment confirms ex-ante assessment



Danke für Ihre Aufmerksamkeit

Thank you for your attention

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