## Dynamic inconsistency in federations

Nobuo Akai†

Motohiro Sato<sup>1</sup>

Version 4/20/2011

## Abstract

This paper clearly shows when the ex post rescue (soft budget) is optimal both ex ante and ex post and how commitment problem affects social utilities welfare in Federation setting, by focusing on the initial cost ex ante, the additional cost ex post and the additional benefit ex post. We introduce self-refinance for the investment ex post but the advantage of the tax collection by the federal level and examine when and how self-refinance is optimal, compare with simple hard budget or simple soft budget. Finally we investigate the optimal softness of budget in the sense of the degree of support for the additional cost ex post.

**Key Words**: soft budget, Time inconsistency JEL:H71,H72,H73,H77

<sup>&</sup>lt;sup>†</sup>Correspondence to: Osaka School of International Public Policy, Osaka University.

<sup>1-31</sup> Machikaneyama, Toyonaka, Osaka, 560-0043 Japan

Tel:+81-(0)6-6850-5624(Dial-In),