

PTitle:  $\_B!H\_B$ The Impact of Intertemporal Trading on Emissions Permit  
> Markets  $\_B!I\_B$   
>  
> Abstract:  
> Emissions permit trading is now widely considered to be an important  
> means of controlling emissions of greenhouse gases (GHGs) in several  
> developed countries. However, questions about the design and  
> implementation of emission permit markets remain open to debate, and  
> chief among these is whether regulated emitters should be allowed to  
> reallocate the right to emit  
> across compliance periods, that is, whether the banking and borrowing of  
> permits should be allowed. Since setting limits on emissions within  
> particular periods of time has been the modus operandi of environmental  
> regulation, allowing banking and borrowing entails a fundamental change  
> of  
> methodology, with implications for both the economics and philosophy of  
> environmental regulation. Also, from the perspective of regulatory  
> authorities, the decision to allow or not to allow banking has profound  
> effects on tradable permit markets as a whole.  
> When banking is allowed, market participants can convert present-year  
> permits into future-year permits, changing the total number of permits  
> available in a given year, which will have significant effects on market  
> equilibrium and prices. Policy makers need to consider these  
> implications  
> and economic impacts fully in deciding whether or not to allow the  
> banking  
> and borrowing of permits. However, the majority of economic studies on  
> tradable permits have surprisingly confined themselves to the analysis  
> of a  
> static framework of non-bankable permits; only a few studies have  
> addressed  
> the issue of bankable permits directly.  
> The purpose of this paper is to examine the impact of permit banking on  
> present spot trade markets in an uncertain world. On the way to this  
> end, I  
> examine permit banking in view of forward permit markets. Forward  
> contracts  
> are derivatives of future spot market trades, in the sense that the  
> payoffs  
> that accrue from cash settlements of forward contracts are dependent  
> upon  
> spot prices at the time of settlements. Thus, forward prices are closely

> related to future spot market prices. When permits are bankable,  
forward  
> markets therefore indirectly link the present spot market to  
uncertain  
> future spot markets. In considering uncertainty in bankable permit  
> markets,  
> one cannot avoid discussing forward markets and forward prices.  
> The paper develops an analytical framework for considering forward  
> pricing  
> and banking impacts. It assesses the effects of banking on tradable  
> emission  
> permit markets, with an emphasis on how changes in such factors as  
> uncertainty about the future, technological progress, types of  
market  
> participants, and discount rate for banked permits affect current  
market  
> prices under a banking regime. Findings obtained provide important  
> implications for policy development.