



Policy Evaluation Model: Connecting the PSE to economic outcomes

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PEM is designed with the PSE in mind

- It was created as part of the mandate to measure and evaluate agricultural policies in OECD countries
- PEM's structure fits the PSE classification of policies, such that each category has an appropriate analogue in the model
 - This is why factor markets receive so much attention in the model



PEM is designed with OECD agricultural policy in mind

- Its scope is limited to (most) OECD countries, and only agricultural markets.
- The scale of aggregation matches the scope of agricultural policy application in the OECD—including the new EU members
- It is designed to investigate the potential impacts of actual and hypothetical policy reforms on production, consumption, trade, and welfare



PEM Basics

- The model is partial equilibrium
 - It covers the markets for major crops (wheat, coarse grains, oilseeds, rice) and livestock (milk and beef) and their related input markets.
- It has an aggregate representation of production
 - Production is represented at a national scale, rather than modelling an individual farm, or a number of farms



PEM Uses a medium-term outlook

- Adjustments in the model happen over a five year time horizon.
- This means all factors can adjust to market changes in the model, including capital, and all are substitutes
 - For example, in the short run a farmer decides how many hours to drive the tractor. In the long run, they decide how big the tractor should be and how many they should own.

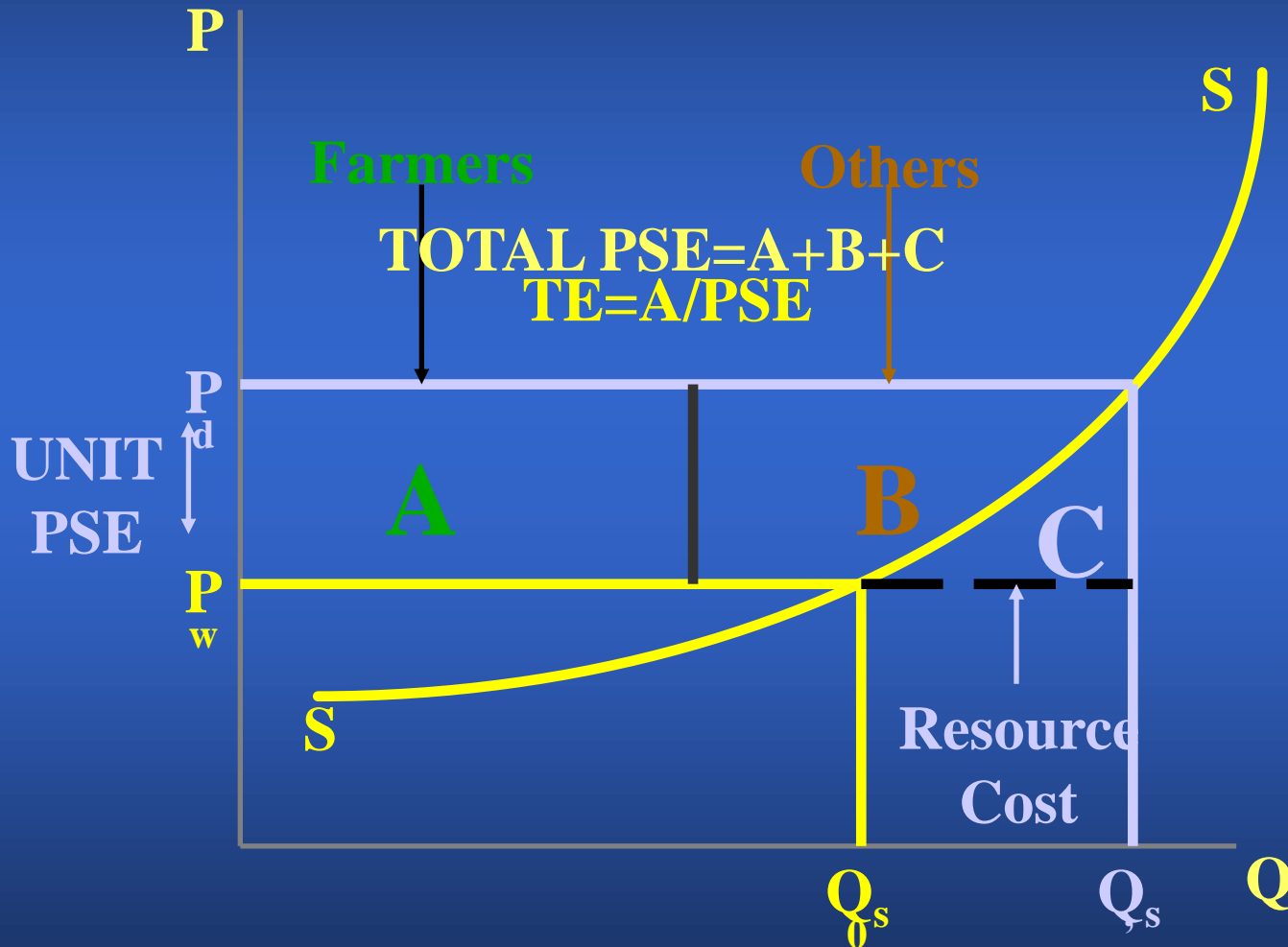


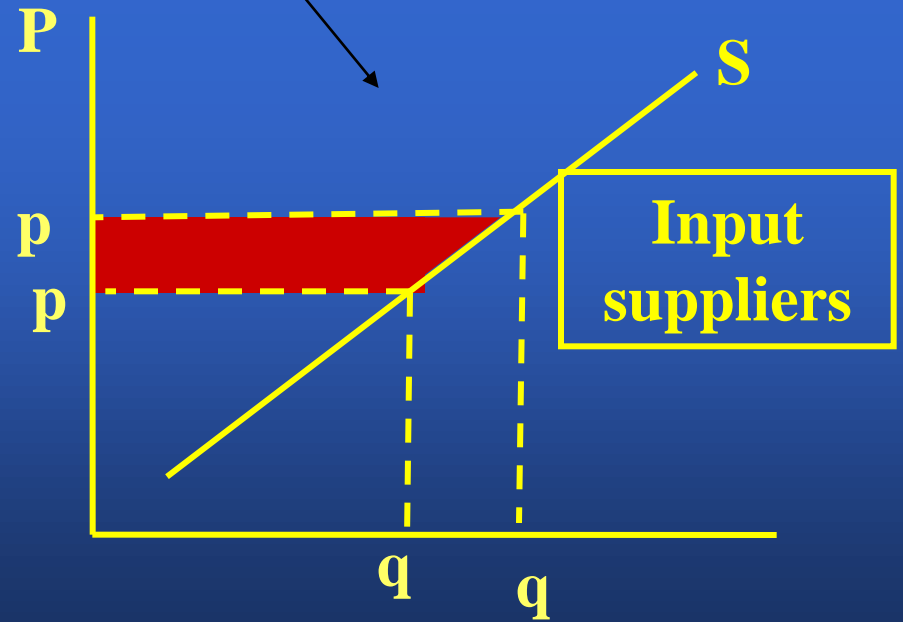
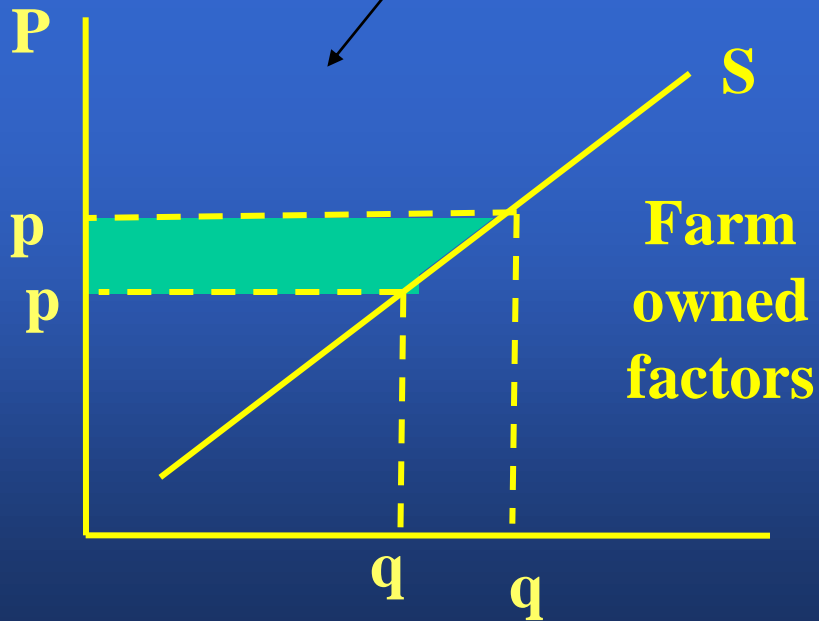
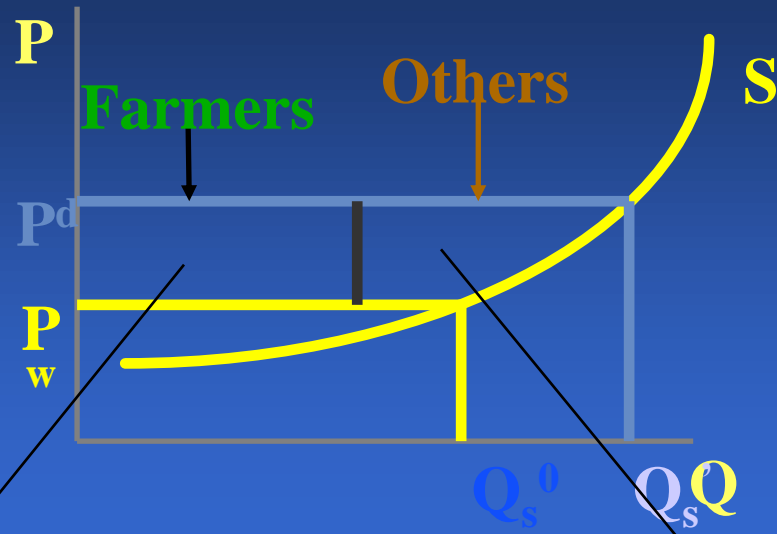
Multiple factor markets enrich welfare analysis

- A key objective is to investigate welfare-based questions such as transfer efficiency of programs
- Transfer efficiency measures the ratio of producer welfare gain to program costs
- Factor markets allow us to identify where benefits go more precisely—specifically between farmers and other suppliers of farm factors of production



Measuring transfer efficiency





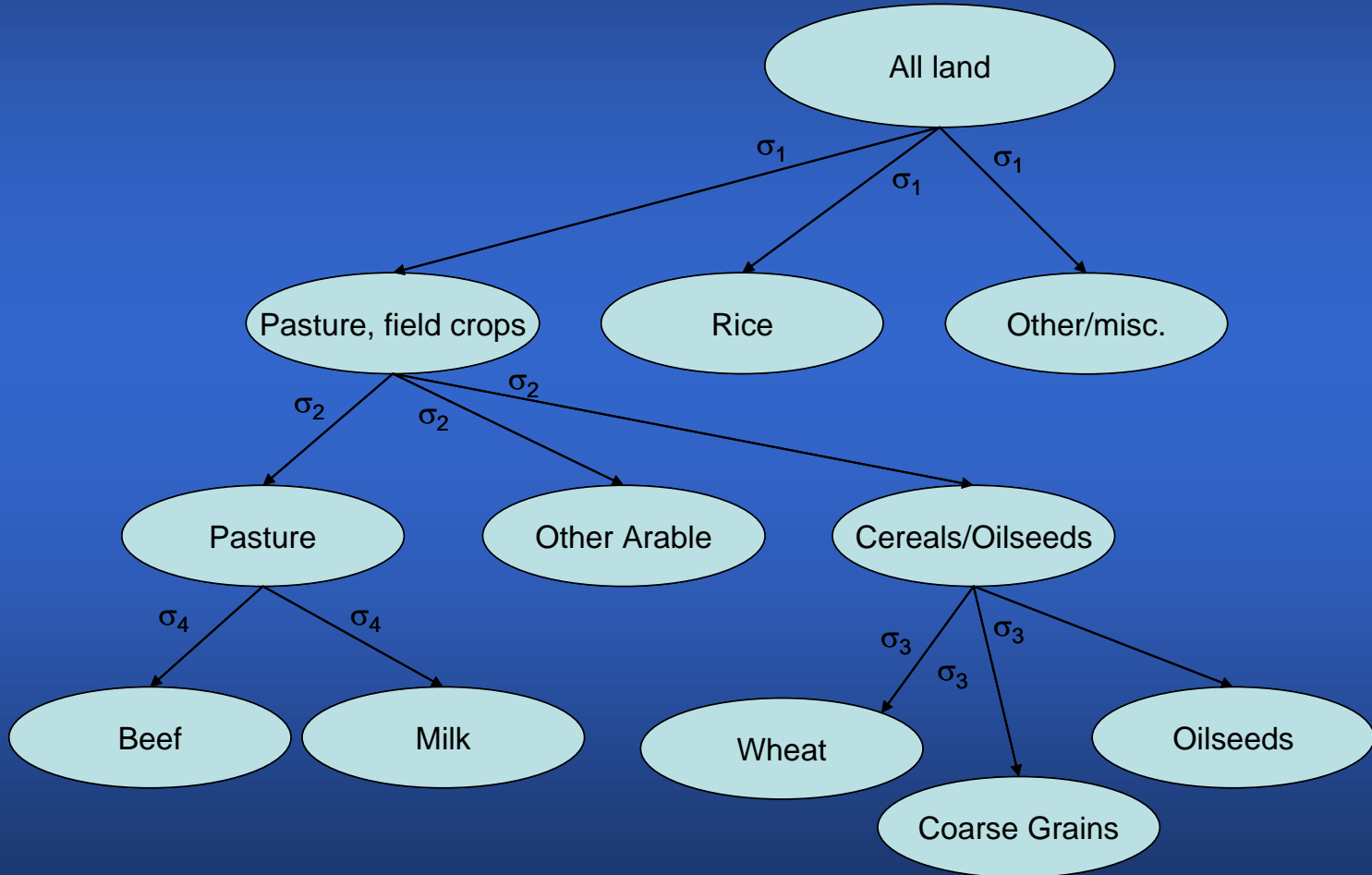


While PEM represents several factor markets, land markets are a focus

- Policies often target land and its uses, so good policy representation requires good land representation.
- “Land” in PEM is a heterogeneous input with many possible uses
- Farmers maximise profits by allocating land across uses according to a hierarchical transformation function



PEM land supply structure



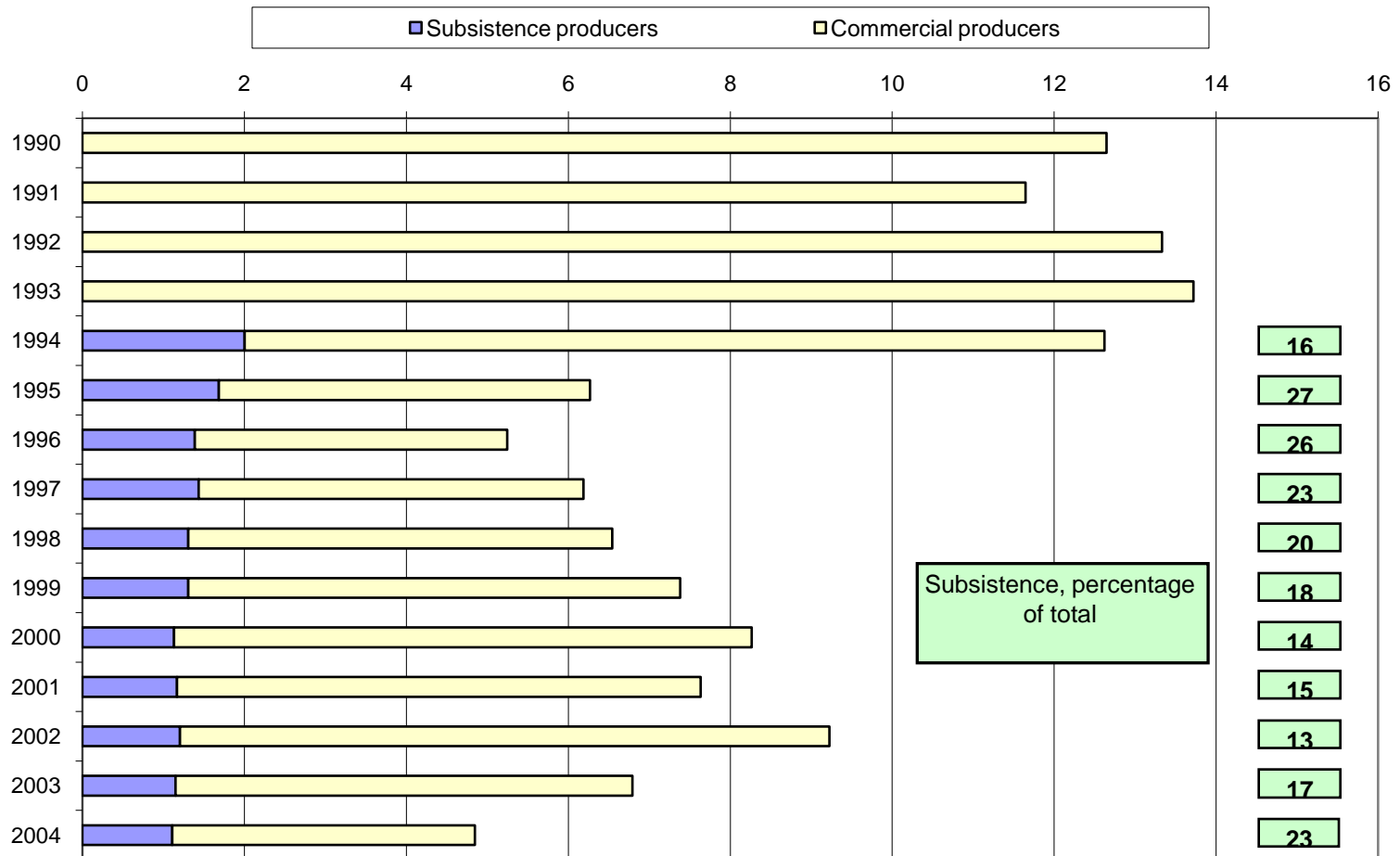


Uses of the PEM

- PEM results have been featured in studies of specific countries, in analysis of specific policy reforms such as the 2003 CAP reform, and for specific policy areas such as dairy policy.
- The following examples demonstrate how the PEM is used and the type of analysis it can produce.



1/ Distribution of policy gains, subsistence and commercial maize producers in Mexico



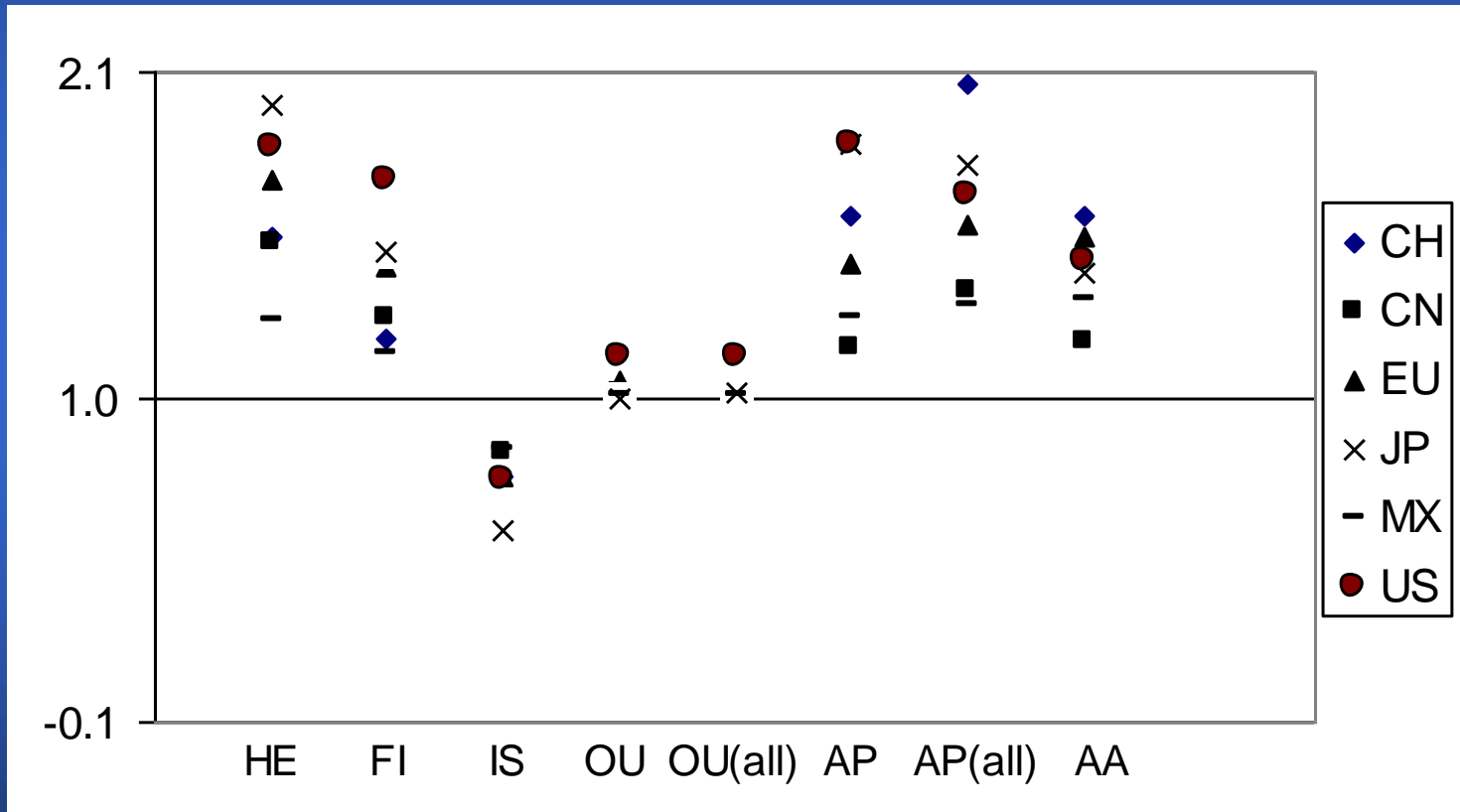


2/ Impact of increasing dairy quota in EU by 1%

Change in the...resulting from an	Increase of quota only	Increase quota+ constant export subsidies
Producer Price	-0.3%	-2.9%
Marginal production cost	+0.8%	+0.8%
Net Exports	+16.3%	+6.4%
World price	-0.5%	-0.2%
Farm welfare	-95 mio €	-1 084 mio €



3/ Relative impact of policies on farm income with respect to price support





Summary

- PEM contributes to the mandate to monitor and evaluate agricultural policies
- It applies economic concepts and related parameters to the PSE in order to enable policy evaluation.
- It is used by the OECD to carry out counterfactual policy scenarios illustrating the impacts of policies on production, trade, and welfare within and across countries



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Thank you!

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