

Abstract

The equality principle and its mathematical expression—the model for Efficient Use of Resources for an Optimal Production Economy (the EUROPE model)—constitute the foundation for an array of papers that started to be published at the beginning of the millennium. This book is based on Dr. Jan Stenis’s licentiate dissertation (2002) and his doctoral thesis (2005c), plus many papers published after Dr. Stenis’s defense of his thesis. The present work describes how the EUROPE model can be used to optimize the resource economy, related to producing entities of many kinds.

The results show that it is possible to apply the equality principle to materials, as well as to intangible issues, to make the utilization of resources more efficient and thereby promote the survival of our species and facilitate the preservation of our culture. The EUROPE model provides management with a tool to simultaneously monitor, manage and evaluate its activities by studying the development over time of a constructed shadow cost, a versatile key factor, that mirrors the status of the phenomenon of interest in terms of economy, technology, and harmful environmental impact. This approach highlights the transformation of inputs into marketable products that can be sold on the market.

It is shown how Dr. Stenis’s EUROPE model can improve the resource economy, from a machine in a workshop, up to the national level. The application of the EUROPE model promotes equity since

the model facilitates the equalization of access to natural resources between parties.

The EUROPE model is applicable to production activities that show an inflow of inputs that are transformed, followed by the discharge of a flow of products plus a residual flow. The EUROPE model can optimize flows through a 'black box', which is a certain unit with inflows and outflows.

The EUROPE model promotes an increased equity for distributing natural resources to everyday citizens, as well as to the production lines of major corporations. This work shows how the EUROPE model's possible realm of applicability, step by step, has been expanded to encapsulate ever more areas of commercial interest, to improve the people's quality of life.