Crecimiento de Capital respecto a la variación de tecnología o conocimiento: Modelado con Ecuaciones Diferenciales

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Abstract: En el presente paper se propone investigar la relación entre el crecimiento económico y el cambio tecnológico a través de la aplicación de ecuaciones diferenciales en el contexto de la economía. Se comparan dos modelos fundamentales, el Modelo Solow-Swan y el Modelo Romer, para analizar cómo el cambio tecnológico influye en el crecimiento económico a lo largo del tiempo, el analisis matematico se centrará solo en el primero de estos dos. El Modelo Solow-Swan se basa en la acumulación de capital físico y tecnología exógena, osea sugieren que el aumento en la productividad solo puede explicarse a través de inversiones directas, el crecimiento de la población y el progreso tecnológico. [1] mientras que el Modelo Romer introduce el concepto de crecimiento endógeno, el cual sugiere que el progreso tecnológico ocurre cuando se inventan nuevos productos, y esto a su vez se debe a la investigación y desarrollo (I+D) realizados por empresarios que buscan obtener beneficios económicos [2]. Los objetivos principales de esta investigación son analizar el impacto del cambio tecnológico en el crecimiento económico y modelar la dinámica del crecimiento económico mediante ecuaciones diferenciales.

Keywords

Ecuaciones diferenciales, Crecimiento económico, Modelo Solow-Swan, Modelo Romer, Cremiento Exogeno

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Notation must be legible, clear, compact, and consistent with standard usage. In general, acronyms should be defined at first use.

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Equations should use standard LaTeX or AMSLaTeX commands (sample from Krishnan *et al.* [1]).

$$\begin{aligned} \bar{\varepsilon} &= \frac{\int_0^{?\infty} \varepsilon \exp(-\beta\varepsilon)\,\mathrm{d}\varepsilon}{\int_0^{?\infty} \exp(-\beta\varepsilon)\,\mathrm{d}\varepsilon} \\ &= -\frac{\mathrm{d}}{\mathrm{d}\beta}\log\left[\int_0^{?\infty}\exp(-\beta\varepsilon)\,\mathrm{d}\varepsilon\right] = \frac{1}{\beta} = kT. \end{aligned} \tag{1}$$

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Fig. 1. Sample figure with preferred style for labeling parts.

Table 1. Sample Table

One	Two	Three
Eins	Zwei	Drei
Un	Deux	Trois
Jeden	Dvě	Tři

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