

RICARDO. PRINCIPIOS DE ECONOMIA POLITICA E IMPUESTOS (1821)

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- Según Blaug, en este capítulo Ricardo intenta demostrar que la teoría del valor-trabajo, pese a sus debilidades, es un atajo para explicar la distribución del ingreso en una economía que crece.
- Pero fue el primero en demostrar que esa teoría no podía explicar los precios relativos.

CAP I, SOBRE EL VALOR

- A Ricardo le interesaba el problema de la distribución del ingreso entre clases y el efecto de la protección al trigo sobre trabajadores y empresarios.
- La renta, como es inframarginal, no entra en la determinación del precio.
- El precio está determinado por los costos de insumos variables (capital y trabajo) aplicados a tierra que no recibe renta.
- Cambios en precios y rentabilidad del capital alteran los precios relativos.
- Con solo un bien, $p = w(1 + r)$ (ajustando unidades y bajo competencia perfecta), lo que muestra la oposición entre capital y trabajo ya que los precios no pueden cambiar.

Cap I, Sobre el Valor Digresión sobre la renta diferencial

- Según Blaug, Ricardo considera “dosis” de trabajo y capital en proporciones fijas.
- A cada tipo de tierra se le agrega capital hasta que el costo marginal de la dosis sea igual al ingreso marginal que produce en ese terreno.
- Tierras más productivas aceptan más dosis.
- La producción de la tierra menos productiva (que acepta menos dosis) no genera renta, la demás generan rentas equivalentes a la diferencia entre costo de las dosis y valor del producto.
- La renta es igual al producto marginal de la tierra (ejercicio: sacar una unidad de tierra y repartir la dosis sobrantes).

Cap I, Sobre el Valor: Digresión sobre la renta diferencial cont . . .

- Según Ricardo, el precio del trigo no es alto porque se paga una renta, sino que se paga una renta porque el precio del trigo es alto.
- Las rentas pueden aparecer porque la tierra es escasa y está toda utilizada siendo homogénea, o
- porque la tierra tiene diferentes productividades y existe tierra marginal disponible o por ambas razones.
- Nota: en este modelo no hay usos alternativos de las tierras (pastoreo, por ejemplo).

CAP I, SOBRE EL VALOR

- Un bien producido con la cantidad promedio de capital, con un periodo promedio de producción es una medida invariante de valor.
- Su valor no es afectado por los cambios en la distribución del ingreso entre trabajo y capital.
- Para Ricardo, el bien más parecido era el oro.
- El problema no está resuelto, pues al usar peor tierra (por presión de la población), los salarios en moneda deben subir para mantener el salario real constante (si los trabajadores solo consumen trigo).
- $\Rightarrow$ cambia el valor del trigo en términos de bienes estándar pese a no haber cambios distributivos.

- Para resolver ese problema, la medida invariable de valor (oro) tiene un ciclo asumido de 12 meses.
- Es decir, estamos en un modelo con un solo bien, el trigo. En ese caso el problema de distribución ya lo vimos.
- Con un factor de producción y dos bienes, los precios relativos son proporcionales a los requerimientos del factor:

$$p_1 = a_1 w \text{ y } p_2 = a_2 w \Rightarrow p_1/p_2 = a_1/a_2$$

- Con capital esto no es válido: si un sector requiere capital circulante para pagar sueldos, $p_1 = a_1 w(1 + r)$ y el otro no: $p_2 = a_2 w \Rightarrow$ no hay proporcionalidad.
- Ricardo: este efecto produciría una desviación del 6-7 % a lo más.
- Ricardo quedó impresionado con el hecho que un alza en el precio del trabajo eleva el precio relativo de los bienes intensivos en trabajo y reduce el precio relativo de los intensivos en capital.
- El caso de capital fijo es más complejo, porque un subproducto del proceso productivo es capital usado cuyo valor depende de r , w y la depreciación real.

CAP I, SOBRE EL VALOR SECCIÓN 1: DIVISIÓN DEL TRABAJO: EL VALOR DE UN BIEN DEPENDE DE LA CANTIDAD RELATIVA DE TRABAJO QUE REQUIERE SU PRODUCCION

- Ricardo distingue entre valor en uso y valor de intercambio y nota que la utilidad es indispensable al valor.
- Hay bienes cuyo valor depende de ser escasos y su precio depende de la demanda –no le interesan–.
- Inicialmente el valor de intercambio depende solo de la cantidad de trabajo en los bienes.

CAP I, SOBRE EL VALOR SECCIÓN 1: DIVISIÓN DEL TRABAJO: EL VALOR DE UN BIEN DEPENDE DE LA CANTIDAD RELATIVA DE TRABAJO QUE REQUIERE SU PRODUCCION

- Critica a Smith por sugerir que el salario es proporcional a la producción:

"If this indeed were true, if the reward of the labourer were always in proportion to what he produced, the quantity of labour bestowed on a commodity, and the quantity of labour which that commodity would purchase, would be equal, and either might accurately measure the variations of other things: but they are not equal; the first is under many circumstances an invariable standard, indicating correctly the variations of other things; the latter is subject to as many fluctuations as the commodities compared with it."

- Según Ricardo, el valor del trabajo es fluctuante, porque depende del valor de los bienes en los que se gastan los salarios (piensa en un nivel mínimo de consumo, aunque socialmente dado).

"If I have to hire a labourer for a week, and instead of ten shillings I pay him eight, no variation having taken place in the value of money, the labourer can probably obtain more food and necessaries, with his eight shillings, than he before obtained for ten: but this is owing, not to a rise in the real value of his wages, as stated by Adam Smith, and more recently by Mr. Malthus, but to a fall in the value of the things on which his wages are expended, things perfectly distinct; and yet for calling this a fall in the real value of wages, I am told that I adopt new and unusual language, not reconcilable with the true principles of the science."

Ricardo CAP I, SOBRE EL VALOR SECCIÓN 2: El trabajo de distintos tipos recibe distinta remuneración.

- Según Ricardo, esto no afecta el valor relativo de los bienes.
- La razón es porque el tiempo ha ajustado estas variaciones y no cambian, y a él le interesa el efecto al cambiar los factores por la acumulación de capital.

"In comparing therefore the value of the same commodity, at different periods of time, the consideration of the comparative skill and intensity of labour, required for that particular commodity, needs scarcely to be attended to, as it operates equally at both periods. One description of labour at one time is compared with the same description of labour at another; if a tenth, a fifth, or a fourth, has been added or taken away, an effect proportioned to the cause will be produced on the relative value of the commodity."

Ricardo Cap I, Sobre el Valor sección 3: El valor también debe incorporar la existencia de capital.

- Se debe agregar al valor del trabajo el costo de producir el capital, o al menos la parte del capital utilizada en la producción, si se desgasta.
- Sin embargo, se mantiene la relación de intercambio dado por el valor total de trabajo incorporado en el bien.

“... the exchangeable value of the commodities produced would be in proportion to the labour bestowed on their production; not on their immediate production only, but on all those implements or machines required to give effect to the particular labour to which they were applied.”

- Aparece por primera vez el bien estándar:

“If there were any other commodity which was invariable in its value,¹ we should be able to ascertain, by comparing the value of fish and game with this commodity, how much of the variation was to be attributed to a cause which affected the value of fish, and how much to a cause which affected the value of game.”

“If we had then an invariable standard, by which we could measure the variation in other commodities, we should find that the utmost limit to which they could permanently rise, if produced under the circumstances supposed,¹ was proportioned to the additional quantity of labour required for their production; and that unless more labour were required for their production, they could not rise in any degree whatever.”

Ricardo Cap I, Sobre el Valor sección IV: El valor trabajo ve afectado por la existencia de capital – El efecto Ricardo

- Lo anterior cambia cuando se introducen procesos productivos de distinto largo.

“ This difference in the degree of durability of fixed capital, and this variety in the proportions in which the two sorts of capital may be combined, introduce another cause, besides the greater or less quantity of labour necessary to produce commodities, for the variations in their relative value—this cause is the rise or fall in the value of labour.”

“Two trades then may employ the same amount of capital; but it may be very differently divided with respect to the portion which is fixed, and that which is circulating.”

“ A rise in the wages of labour cannot fail to affect unequally, commodities produced under such different circumstances.”

“On account then of the different degrees of durability of their capitals, or, which is the same thing, on account of the time which must elapse before one set of commodities can be brought to market, they will be valuable, not exactly in proportion to the quantity of labour bestowed on them,—they will not be as two to one, but something more, to compensate for the greater length of time which must elapse before the most valuable can be brought to market. ¡Noción inicial de capital de los Austriacos!”

- Conflicto de clases:

“There can be no rise in the value of labour without a fall of profits. If the corn is to be divided between the farmer and the labourer, the larger the proportion that is given to the latter, the less will remain for the former”

Ricardo Cap I, Sobre el Valor sección 1: sección IV: El valor trabajo ve afectado por la existencia de capital – El efecto Ricardo ...

- El efecto de un alza de salarios depende de la proporción de capital de distintas durabilidades del ciclo productivo:

"The degree of alteration in the relative value of goods, on account of a rise or fall of labour, would depend on the proportion which the fixed capital bore to the whole capital employed. All commodities which are produced by very valuable machinery, or in very valuable buildings, or which require a great length of time before they can be brought to market, would fall in relative value, while all those which were chiefly produced by labour, or which would be speedily brought to market would rise in relative value.¹"

- Los efectos no son demasiado importantes y se puede seguir usando la teoría del valor-trabajo:

"The greatest effects which could be produced on the relative prices of these goods from a rise of wages, could not exceed 6 or 7 per cent.; for profits could not, probably, under any circumstances, admit of a greater general and permanent depression than to that amount."

- El efecto se debe a que las utilidades de un período se deben agregar al capital en el ciclo productivo más largo:

"The difference in value arises in both cases from the profits being accumulated as capital, and is only a just compensation for the time that the profits were withheld."

Ricardo: Cap I, Sobre el Valor sección V: También interesa la durabilidad de la maquinaria

- El principio es el mismo que en el caso anterior.

"But a rise in the wages of labour would not equally affect commodities produced with machinery quickly consumed, and commodities produced with machinery slowly consumed. In the production of the one, a great deal of labour would be continually transferred to the commodity produced—in the other very little would be so transferred. Every rise of wages, therefore, or, which is the same thing, every fall of profits, would lower the relative value of those commodities which were produced with a capital of a durable nature, and would proportionally elevate those which were produced with capital more perishable. A fall of wages would have precisely the contrary effect."

- La ventaja de la mayor durabilidad es que el efecto del alza en los precios del trigo tiene un efecto menor:

"Thus then is the public benefited by machinery: these mute agents are always the produce of much less labour than that which they displace, even when they are of the same money value. Through their influence, an increase in the price of provisions which raises wages will affect fewer persons; it will reach, as in the above instance, eighty-five men instead of a hundred, and the saving which is the consequence, shows itself in the reduced price of the commodity"

Cap 1 sobre el Valor: Sección VI El Estándar de valor

- El oro podría ser un estándar pero:

"But if this cause of variation in the value of a medium could be removed—if it were possible that in the production of our money for instance, the same quantity of labour should at all times be required, still it would not be a perfect standard or invariable measure of value, because, as I have already endeavoured to explain, it would be subject to relative variations from a rise or fall of wages, on account of the different proportions of fixed capital which might be necessary to produce it, and to produce those other commodities whose alteration of value we wished to ascertain. It might be subject to variations too, from the same cause, on account of the different degrees of durability of the fixed capital employed on it, and the commodities to be compared with it—or the time necessary to bring the one to market, might be longer or shorter than the time necessary to bring the other commodities to market, the variations of which were to be determined; all which circumstances disqualify any commodity that can be thought of from being a perfectly accurate measure of value."

- Su ventaja:

"then, I may suppose myself to be possessed of a standard so nearly approaching to an invariable one, the advantage is, that I shall be enabled to speak of the variations of other things, without embarrassing myself on every occasion with the consideration of the possible alteration in the value of the medium in which price and value are estimated."

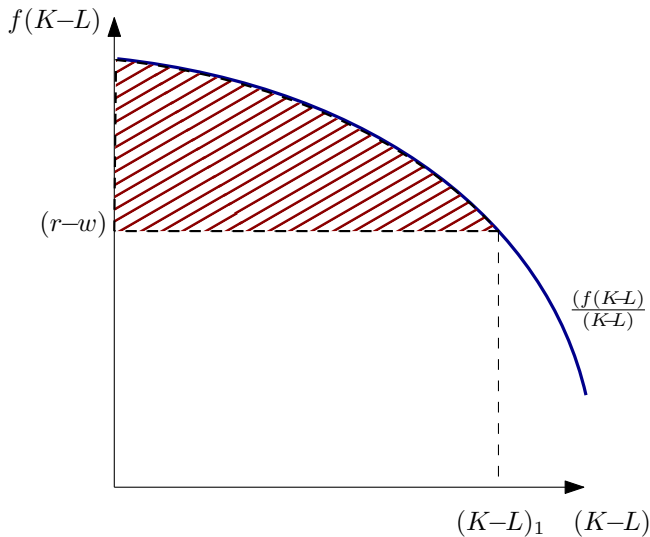
- Pero al final decide usar el oro:

"To facilitate, then, the object of this enquiry, although I fully allow that money made of gold is subject to most of the variations of other things, I shall suppose it to be invariable, and therefore all alterations in price to be occasioned by some alteration in the value of the commodity of which I may be speaking. Before I quit this subject, it may be proper to observe, that Adam Smith, and all the writers who have followed him, have, without one exception that I know of, maintained that a rise in the price of labour would be uniformly followed by a rise in the price of all commodities.¹ I hope I have succeeded in showing, that there are no grounds for such an opinion, and that only those commodities would rise which had less fixed capital employed upon them than the medium in which price was estimated, and that all those which had more, would positively fall in price when wages rose."

Cap 2 Sobre la renta

- La renta es el producto de la tierra por el uso original e indestructible de la tierra.
- La tierra no recibe renta si hay disponible tierra fértil abundante (salvo por la localización, que admite como un factor).
- La renta es la diferencia en el producto obtenida por la aplicación de cantidades iguales de capital y trabajo.
- El último capital –en un mismo terreno– no paga renta.
- *"The exchangeable value of all commodities, whether they be manufactured, or the produce of the mines, or the produce of land, is always regulated, not by the less quantity of labour that will suffice for their production under circumstances highly favorable, and exclusively enjoyed by those who have peculiar facilities of production; but by the greater quantity of labour necessarily bestowed on their production by those who have no such facilities; by those who continue to produce them under the most unfavorable circumstances; meaning—by the most unfavorable circumstances, the most unfavorable under which the quantity of produce required, renders it necessary to carry on the production."*

La última tierra cultivada no paga renta ($K-L$ son dosis)



- *"Corn is not high because a rent is paid, but a rent is paid because corn is high; and it has been justly observed,¹ that no reduction would take place in the price of corn, although landlords should forego the whole of their rent. Such a measure would only enable some farmers to live like gentlemen, but would not diminish the quantity of labour necessary to raise raw produce on the least productive land in cultivation."*
- El precio no es afectado por la renta
"rent does not and cannot enter in the least degree as a component part of its price"
- El efecto del crecimiento:
"The same effects may however be produced, when the wealth and population of a country are increased, if that increase is accompanied by such marked improvements in agriculture, as shall have the same effect of diminishing the necessity of cultivating the poorer lands, or of expending the same amount of capital on the cultivation of the more fertile portions."

- Efectos maltusianos:

"It is undoubtedly true, that the fall in the relative price of raw produce, in consequence of the improvement in agriculture, or rather in consequence of less labour being bestowed on its production, would naturally lead to increased accumulation; for the profits of stock would be greatly augmented. This accumulation would lead to an increased demand for labour, to higher wages, to an increased population, to a further demand for raw produce, and to an increased cultivation. It is only, however, after the increase in the population, that rent would be as high as before; that is to say, after No. 3 was taken into cultivation. A considerable period would have elapsed, attended with a positive diminution of rent."

"But improvements in agriculture are of two kinds: those which increase the productive powers of the land, and those which enable us, by improving our machinery,¹ to obtain its produce with less labour. They both lead to a fall in the price of raw produce; they both affect rent, but they do not affect² it equally. If they did not occasion a fall in the price of raw produce, they would not be improvements; for it is the essential quality of an improvement to diminish the quantity of labour before required to produce a commodity; and this diminution cannot take place without a fall of its price or relative value."

Cap 4: Precio natural y de mercado

- Ricardo separa el precio natural, basado en el valor-trabajo, del precio de mercado, temporal y simple desviación del precio natural.
- Después de ajustar por riesgo, consideraciones de imagen y otras, el capital siempre obtiene la misma rentabilidad en todos los sectores.
- Menciona brevemente como se produce el ajuste a un cambio en la demanda y luego de refiere a Smith, que trató estos tema tan bien.
- Concluye que lo único interesante son las conclusiones al usar los precios naturales, mas permanentes.

- La acumulación de capital tiende a elevar el precio del trabajo, a medida que aumenta la población, dado que la productividad de la tierra cae.
- Ricardo tiene un enfoque Maltusiano:

"It is when the market price of labour exceeds its natural price, that the condition of the labourer is flourishing and happy, that he has it in his power to command a greater proportion of the necessities and enjoyments of life, and therefore to rear a healthy and numerous family. When, however, by the encouragement which high wages give to the increase of population, the number of labourers is increased, wages again fall to their natural price, and indeed from a re-action sometimes fall below it."

- El capital es lo que hace efectivo el trabajo:

"Capital is that part of the wealth of a country which is employed in production, and consists of food, clothing, tools, raw materials¹, machinery, and necessary to give effect to labour."

- El problema de los salarios socialmente determinados:

"It is not to be understood that the natural price of labour⁴, estimated even in food and necessities, is absolutely fixed and constant. It varies at different times in the same country, and very materially differs in different countries. It essentially depends on the habits and customs of the people. An English labourer would consider his wages under their natural rate, and too scanty to support a family, if they enabled him to purchase no other food than potatoes, and to live in no better habitation than a mud cabin; yet these moderate demands of nature are often deemed sufficient in countries where "man's life is cheap", and his wants easily satisfied."

- La acumulación de capital solo puede ayudar en un país sobrepoblado si el país es pobre:

"With a population pressing against the means of subsistence, the only remedies are either a reduction of people, or a more rapid accumulation of capital. In rich countries, where all the fertile land is already cultivated, the latter remedy is neither very practicable nor very desirable, because its effect would be, if pushed very far, to render all classes equally poor. But in poor countries, where there are abundant means of production in store, from fertile land not yet brought into cultivation, it is the only safe and efficacious means of removing the evil, particularly as its effect would be to elevate all classes of the people."

- Ricardo adopta la posición de Malthus sobre lo poco que sirve ayudar a los trabajadores y a los pobres:

"The clear and direct tendency of the poor laws, is in direct opposition to these obvious principles: it is not, as the legislature benevolently intended, to amend the condition of the poor, but to deteriorate the condition of both poor and rich; instead of making the poor rich, they are calculated to make the rich poor; and whilst the present laws are in force, it is quite in the natural order of things that the fund for the maintenance of the poor should progressively increase, till it has absorbed all the net¹ revenue of the country, or at least so much of it as the state shall leave to us, after satisfying its own never failing demands for the public expenditure"

Cap 6: Sobre las utilidades

- Las utilidades del capital pueden ser distintas debido a motivos como riesgo, y otras causas, pero todas se mueven siempre en la misma dirección.
- Por lo tanto, lo que interesa es la dirección de estas utilidades en el largo plazo.
- Si los precios de trigo y manufacturas son constantes, las utilidades son altas o bajas dependiendo del salario.
- Pero si sube el precio del trigo porque se requieren más trabajadores por unidad, el precio de las manufacturas no sube, porque la productividad por trabajador no cambia.
- Dado que los salarios suben con el precio del trigo, las utilidades en manufacturas caen.
- Un alza en el precio del trigo aumenta las rentas de la tierra, pero las utilidades del empresario coampesino cambian dependiendo de si se los salarios caen o no. Si los salarios suben está peor.

- Según Ricardo, la tendencia de las utilidades es a caer con el crecimiento, a menos que hayan cambios tecnológicos en la agricultura:

"The natural tendency of profits then is to fall; for, in the progress of society and wealth, the additional quantity of food required is obtained by the sacrifice of more and more labour. This tendency, this gravitation as it were of profits, is happily checked at repeated intervals by the improvements in machinery, connected with the production of necessaries, as well as by discoveries in the science of agriculture which enable us to relinquish a portion of labour before required, and therefore to lower the price of the prime necessary of the labourer."

El modelo Pasinetti-Ricardo 1

- Dos bienes, oro consumido por terratenientes, es el numerario. Trabajadores solo consumen trigo.

$$\text{Trigo: } X_1 = f(N_1), f' > 0, f'' < 0$$

$$\text{Oro: } X_2 = N_2/a_2. \text{ Rendimientos constantes}$$

- $N_1 + N_2 = N$ trabajadores totales.
- Capital y trabajo en proporciones fijas, así que se usan N_1, N_2 dosis de K+L.
- Suponemos $t_1 = t_2$, así que no se necesita medida invariable de valor.
- Si a_1, a_2 son las dosis necesarias para producir una unidad de cada bien se tiene $p_1/p_2 = a_1/a_2$. Como a_2 es constante, p_1/p_2 depende solo de a_1 , donde a_1 : dosis de K+L en tierra que no paga renta.

El modelo Pasinetti-Ricardo 2

- Los salarios totales son $\bar{W} = \bar{w}N$, donde $\bar{w}$ es el salario en trigo, fijo, de los trabajadores.
- El stock de capital es $K = \bar{W}$.
- Rentas totales:

$$\bar{R} = X_1 - N'_1 f'(N_1) = f(N_1) - N_1 f'(N_1) \quad (1)$$

el producto total menos la producción de los insumos aplicada a la tierra marginal.

- Utilidades en agricultura:

$$\bar{\pi}_1 = X_1 - \bar{R} - \bar{w}N_1$$

$$\bar{\pi}_2 = X_2 - \bar{w}N_2$$

- El precio del oro es $p_2 = a_2 = N_2/X_2 = 1$

El modelo Pasinetti-Ricardo 3

- El precio del trigo en términos de oro: despejando (1),

$$p_1 = (a_1/a_2)p_2 = a_1 = \frac{N_1}{X_1 - \bar{R}}$$

- El precio del trigo es inversamente proporcional a la productividad de la dosis de K+L en la agricultura: de (1) $\Rightarrow$

$$f'(N_1) = \frac{X_1 - \bar{R}}{N_1} \Rightarrow p_1 = \frac{1}{f'(N_1)} \quad (2)$$

- Se tiene:

$$p_1 \bar{\pi}_1 = p_1(X_1 - \bar{R} - \bar{w}N_1), \text{ utilidades en dinero, sector trigo.}$$

$$p_2 \bar{\pi}_2 = p_2X_2 - p_1\bar{w}N_2, \text{ utilidades en dinero, sector oro}$$

$$\pi = p_1 \bar{\pi}_1 + p_2 \bar{\pi}_2 = p_1X_1 - p_1\bar{R} + p_2X_2 - p_1\bar{W}, \text{ utilidades totales en dinero. } (3)$$

El modelo Pasinetti-Ricardo 4

- Notando que (2) implica que $p_1(X_1 - \bar{R}) = N_1$, que $p_2 X_2 = N_2$, y que son los primeros tres términos en (3), se tiene:

$$\pi = (N_1 + N_2)(1 - \bar{w}p_1)$$

- Rentas totales en dinero son: $p_1 \bar{R} = p_2 X_2 = N_2$.
- El salario nominal es: $w = p_1 \bar{w} = \bar{w}/f'(N_1) = \bar{w}a_1$.
- La rentabilidad nominal del capital:

$$r = \frac{\pi}{p_1 K} = \frac{(N_1 + N_2)(1 - \bar{w}p_1)}{\pi p_1 (N_1 + N_2)} = \frac{1 - \bar{w}p_1}{\bar{w}p_1} = \frac{1}{\bar{w}p_1} - 1 = \frac{f'(N_1)}{\bar{w}} - 1 \quad (4)$$

- La tasa de rentabilidad varía inversamente con el precio del trigo.
- El sector oro no tiene ningún impacto en la rentabilidad del capital.
- Este es un modelo de largo plazo, porque supone fija la oferta de tierra (en el sentido que no hay deseos de ocupar tierra de peor calidad) porque el número de trabajadores es constante.

El modelo Pasinetti-Ricardo 5: Efectos acumulación de capital

- Como $K = \bar{W} = N\bar{w}$, se tiene $dN/dK = 1/\bar{w} > 0$, el aumento en el capital aumenta el empleo (o la cantidad de trabajadores que la economía puede soportar).
- Además, $dK/d\bar{W} = 1$ por lo que el salario agregado aumenta.
- Usando (1)

$$\frac{d\bar{R}}{dK} = -N_1 f''(N_1) \frac{dN_1}{dK} = -N_1 f''(N_1) \frac{1}{\bar{w}} > 0$$

así que las rentas agregadas crecen.

- De (2) y (4) se tiene:

$$\frac{dp_1}{dK} = -\frac{f''(N_1)}{f'(N_1)^2} \frac{dN_1}{dK} > 0 \text{ y } \frac{dr}{dK} = \frac{1}{\bar{w}} f''(N_1) \frac{dN_1}{dK} < 0$$

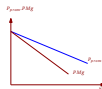
⇒ el precio del trigo aumenta y la rentabilidad del capital cae.

El modelo Pasinetti-Ricardo: ¿aumenta la proporción de las rentas en el producto?

- Consideramos un modelo de un solo bien, $X = f(N)$, $f' > 0$, $f'' < 0$. N son dosis capital trabajo.
- ¿Cómo cambia la fracción que se llevan los trabajadores?
- Debe aumentar, pues la productividad de la tierra cae, pero a los trabajadores no se les puede pagar menos de $\bar{w}$.
- En el caso de la fracción destinada a renta:

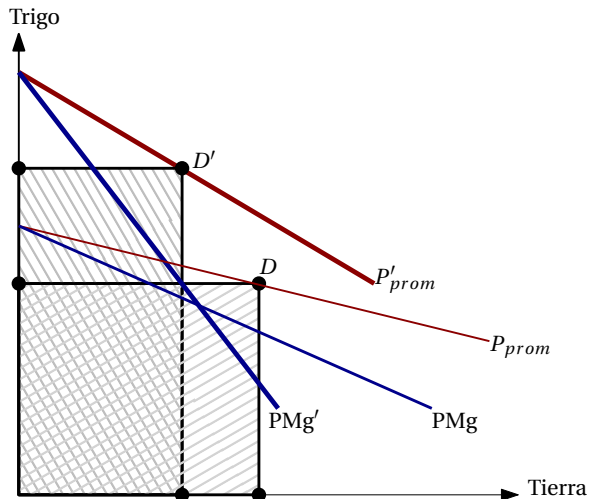
$$\frac{\bar{R}}{X} = \frac{[f(N) - Nf'(N)]}{f(N)} = 1 - \frac{f'(N)}{f(N)/N} = 1 - \frac{PMg}{P_{prom}}$$

La proporción destinada a la renta depende de si PMg/P_{prom} crece o decrece con N .



- Ricardo considera dos tipos de innovaciones agrícolas:
 - Aquellos que aumentan la producción de las tierras (mejor rotación de cultivos, mejor fertilizante)
 - Aquellos que reducen la cantidad de $K+L$ necesaria para producir una determinada cantidad en un terreno específico.
- En el primer caso, las rentas por unidad caen, pero ¿cae su participación en el ingreso agregado?
- Consideremos el caso de las mejoras equiproporcionales de Ricardo (son más importantes en las mejores tierras).
- Su resultado de que la participación agregada de las rentas cae depende de curvas PMg y P_{prom} lineales (ver figura).
- Como la demanda por trigo es inelástica, el producto total (Rectángulos en D , D') tienen el mismo área.

Cambio tecnológico en trigo: mayor productividad tierra



- Si las mejoras en la tierra son iguales por unidad de terreno, el resultado se invierte.
- Cuando se consideran mejoras en la eficiencia de las dosis $K+L$, cuando los aumentos son equiproporcionales, las rentas aumentan, pero no las rentas en dinero, porque el precio del trigo cae.
- ¿Y que pasa con el capital y trabajo liberado? Ricardo no lo especifica.

- El valor de las importaciones está dado la cantidad de nuestros factores productivos que tuvimos que sacrificar para conseguirlos:

"As the value of all foreign goods is measured by the quantity of the produce of our land and labour, which is given in exchange for them, we should have no greater value, if by the discovery of new markets, we obtained double the quantity of foreign goods in exchange for a given quantity of our's."

- Discute con los que creen que las ganancias del comercio exterior elevan el retorno al capital en todos los sectores.
- Su argumento es que la cantidad de factores disponibles es constante, y solo aumentarían las utilidades del capital si cayera el precio del trigo (si se importara del extranjero).
- Admite que los capitalistas pueden ahorrar más al comprar cosas más baratas del extranjero.
- Compara el efecto de las importaciones del trigo con el de avances técnicos sobre las utilidades del capital.

- Muestra que las reglas que se aplican al comercio en un país no se aplican al comercio entre países (algo Panglossiano):

"The same rule which regulates the relative value of commodities in one country, does not regulate the relative value of the commodities exchanged between two or more countries. Under a system of perfectly free commerce, each country naturally devotes its capital and labour to such employments as are most beneficial to each. This pursuit of individual advantage is admirably connected with the universal good of the whole."

- En particular, las utilidades del capital no son iguales entre países, no hay libre movimiento de factores (temor o dificultad):

"In one and the same country, profits are, generally speaking, always on the same level; or differ only as the employment of capital may be more or less secure and agreeable. It is not so between different countries."

- Si Portugal fuera autárquico, su producción sería ineficiente:

"If Portugal had no commercial connexion with other countries, instead of employing a great part of her capital and industry in the production of wines, with which she purchases for her own use the cloth and hardware of other countries, she would be obliged to devote a part of that capital to the manufacture of those commodities, which she would thus obtain probably inferior in quality as well as quantity."

- El comercio se determina por ventajas comparativas:

"England may be so circumstanced, that to produce the cloth may require the labour of 100 men for one year; and if she attempted to make the wine, it might require the labour of 120 men for the same time. England would therefore find it her interest to import wine, and to purchase it by the exportation of cloth.

To produce the wine in Portugal, might require only the labour of 80 men for one year, and to produce the cloth in the same country, might require the labour of 90 men for the same time. It would therefore be advantageous for her to export wine in exchange for cloth. This exchange might even take place, notwithstanding that the commodity imported by Portugal could be produced there with less labour than in England. Though she could make the cloth with the labour of 90 men, she would import it from a country where it required the labour of 100 men to produce it, because it would be advantageous to her rather to employ her capital in the production of wine, for which she would obtain more cloth from England, than she could produce by diverting a portion of her capital from the cultivation of vines to the manufacture of cloth."

- Son los salarios los que son distintos:

"hus England would give the produce of the labour of 100 men, for the produce of the labour of 80. Such an exchange could not take place between the individuals of the same country. The labour of 100 Englishmen cannot be given for that of 80 Englishmen, but the produce of the labour of 100 Englishmen may be given for the produce of the labour of 80 Portuguese,..."

- El precio final será intermedio entre los precios de cada país:

"Thus, cloth cannot be imported into Portugal, unless it sell there for more gold than it cost in the country from which it was imported; and wine cannot be imported into England, unless it will sell for more there than it cost in Portugal."

- Un cambio tecnológico puede alterar la dirección del comercio. Esto requiere un ajuste de precios relativos, mediante el mecanismo de Hume:

"Now suppose England to discover a process for making wine, so that it should become her interest rather to grow it than import it; she would naturally divert a portion of her capital from the foreign trade to the home trade; she would cease to manufacture cloth for exportation, and would grow wine for herself. The money price of these commodities would be regulated accordingly; wine would fall here while cloth continued at its former price, and in Portugal no alteration would take place in the price of either commodity. Cloth would continue for some time to be exported from this country, because its price would continue to be higher in Portugal than here; but money instead of wine would be given in exchange for it, till the accumulation of money here, and its diminution abroad, should so operate on the relative value of cloth in the two countries, that it would cease to be profitable to export it. If the improvement in making wine were of a very important description, it might become profitable for the two countries to exchange employments; for England to make all the wine, and Portugal."

- Ricardo siempre distingue entre un alza en el *valor* del trigo y un bajo precio de la moneda y considera que cuando se trata del primero la rentabilidad del capital cae.

Cap 7: Comercio Exterior

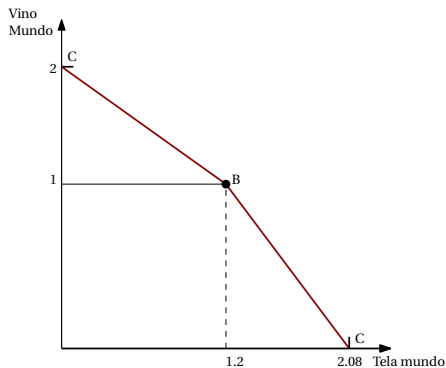
- Smith: ventajas absolutas de costo determinan la dirección del comercio.
- Habían casos en que Smith no predecía la dirección de comercio.
- Ricardo usa las ventajas comparativas para resolver el problema con dos bienes en todos los casos.
- Sea V , T las unidades de trabajo en una unidad de vino y telas, subíndices P , E se refieren a Inglaterra y Portugal.
- Ventajas absolutas: $V_E/V_P > 1 > T_E/T_P$: Portugal tiene ventajas absolutas en vino y lo exporta.
- Ventajas comparativas, Portugal exporta vino si:

$$V_E/V_P > T_E/T_P$$

- Portugal exporta vino si su precio relativo autárquico es menor que en Inglaterra (Ricardo: $(P_V/P_T)_E = 1,2 > 0,88 = (P_V/P_T)_P$).

Cap 7: Comercio Exterior: PPF mundo

- Pendientes: precios relativos autárquicos.
- Preci comercio están entre precios autárquicos.
- Precio final depende de la demanda mundial.
- Si precio distinto del autárquico, ambos países están mejor.
- Los salarios relativos pueden ser distintos.
- ¡Precios no determinados por teoría del valor-trabajo!



Cap 31: Maquinaria

- Ricardo señala que se ha equivocado en ediciones anteriores y que ahora cree que en algunos casos los avances técnicos pueden perjudicar a los trabajadores.
- Sigue convencido que los cambios tecnológicos benefician a capitalistas y terratenientes, pero no necesariamente a los trabajadores.
- Capitalista con £20.000 de los cuales £7.000 es capital fijo y £13.000 es circulante para pagar a los trabajadores.
- Retorno al capital es 10 %, así que el capitalista recibe £2.000 /año.
- Cada año el capitalista parte con alimentos y otras necesidades por £13.000, que le va entregando como pago a sus trabajadores.
- Al final del año, recupera los £15.000 en alimento y necesidades, incluyendo £2.000 para su consumo (reproducción simple en lenguaje de Marx).

Cap 31: Maquinaria

- Supongamos que le empresario decide construir una máquina, y destina la mitad de los trabajadores a esta tarea.
- Durante el año pagaría los salarios habituales, ¿pero que pasa al año siguiente?
- Mientras se construye la máquina, solo se produjo la mitad de los alimentos y otras necesidades. Si por ejemplo la máquina vale £7.500, los alimentos valen £7.500 y el capitalista tiene tanto capital como antes, al agregar el capital fijo de £7.000.
- Luego de descontar £2000 como retorno al capital, solo restan £5.000 como capital circulante.
- El resto de los trabajadores terminará redundante.
- Los trabajadores que quedan, más la máquina tendrán que producir las £2.000, que es lo único que le importa al capitalista (Aquí falla Say, porque los salarios reales no pueden caer). **Argumento austríaco de las crisis por sobreinversión.**

- Ahora bien, posteriormente., con la mayor rentabilidad producto de la máquina, el capitalista comenzaría a acumular y luego podría contratar a más personas.
- Ricardo deduce tres resultados:

"That the discovery, and useful application of machinery, always leads to the increase of the net produce of the country, although it may not, and will not, after an inconsiderable interval, increase the value of that net produce.

2dly. That an increase of the net produce of a country is compatible with a diminution of the gross produce, and that the motives for employing machinery are always sufficient to insure its employment, if it will increase the net produce, although it may, and frequently must, diminish both the quantity of the gross produce, and its value.

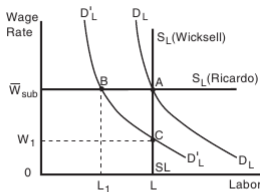
3dly. That the opinion entertained by the labouring class, that the employment of machinery is frequently detrimental to their interests, is not founded on prejudice and error, but is conformable to the correct principles of political economy."

- Los trabajadores se oponen a la introducción de maquinaria con razón: protestas de la época. Fenómeno distinto al de Ricardo.

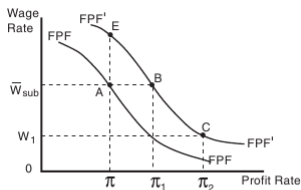
- La guerra es lo mismo, sin el adicional de un aumento en el producto neto de la economía.
- Si la pagan los impuestos de terratenientes y capitalistas, demanda más trabajo y favorece el aumento de la población. Al final de la guerra el efecto es contrario.
- Pero es peor no introducir la maquinaria, por que lo puede hacer otro país, con lo que el efecto es peor, porque se llevan la ventaja de una mayor acumulación de capital, que favorece luego al trabajo.
- La siguiente figura nos muestra que el modelo es razonable dados los supuestos. El movimiento Ricardiano es $A \rightarrow B$, el neoclásico, $A \rightarrow C$.

Cap 31: Maquinaria: efectos sobre empleo producción y retorno al capital

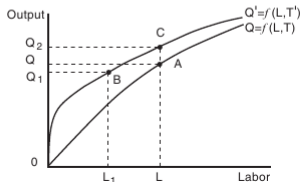
Panel 1: Labor Demand and Supply



Panel 3: Factor Price Frontier



Panel 2: Production Function



Ricardo versus Wicksell on Job Losses and Technological Change, T. Humphrey, *Federal Reserve Bank of Richmond Economic Quarterly* Vol 90/4, Fall 2004.