经济学原理 II（2012 年春季学期）
期中考试 1（A 卷答案）
（2012/3/21）

注意：请将所有题目的答案写在答题册上，写在本试题纸上一律无效。

一、判断题（判断并简要说明理由，必要时可以用图形。每题4分，共24分）

1. 黑死病导致了劳动力供给大量减少。但与此同时也减少了产品市场的需求，从而也减少了对劳动力的需求。因此，黑死病是否使得劳动者受益是不确定的。

错误。考虑公式 w=P*MPL，即 w/P=MPL，实际工资等于其边际产量，而边际产量由于劳动力数量相对稀缺而上升。从而导致实际工资上升，劳动者受益。上述分析的错误在于虽然产品市场 P 下降虽然导致边际产值下降，但反映福利的实际工资只取决于边际产量而非边际产值。（注：这一分析只对经济整体上的就业变动使用；黑死病就是这样的变动。）

2. 按照自由主义（罗尔斯）的政治哲学，一个相对收入更不平等（如用基尼系数衡量）的社会必定坏于一个相对收入更平等的社会，无论二者的平均收入是否存在差别。

错误。一个相对收入更不平等的社会如果更富裕，以致其最低收入者的收入高于一个相对收入更平等的社会最低收入者的收入。则按照最大化最小的标准，自由主义哲学可能偏好前者。

3. A boyfriend can signal to a girlfriend that he loves her by saying “I love you”.

False. For a signal to be credible, it should be costly so that a boy who doesn’t love the girl would not be willing to pay the costs. Since saying “I love you” is costless, it cannot be regard as a credible signal.

4. “炒股”的收入（即通过在股票市场上“低买高卖”获得的收入）属于收入法 GDP。

错误。这部分收入体现的是人们对于股票价值的预期变化，通常对应于对于企业未来盈利能力的预期，不对应收入法 GDP 中任何一部分——劳动者报酬，地租或当期未分配利润。

5. 一个国家向污染企业征税。另一个国家任由污染企业排污。其他条件不变。后者的 GDP 更高；但前者的福利水平更高。

正确。后者的污染企业产出更高，所以 GDP 更高。但显然在前一种情况下，社会总福利更高，因为向污染企业征税提高了社会效率，虽然也减少了一些产出，但减少产出的价值低于环境改善的好处。

6. 张三在下晚自习的路上突然感到饥饿，但他兜里没钱。他最终决定向煎饼摊主赊账买了一个煎饼。则张三的购买行为增加了支出法衡量的GDP，但没有增加收入法衡量的GDP。

错误。张三的行为显然增加了支出法的GDP（等于一张煎饼的消费），但同时也增加了收入法GDP。这个收入对应的是煎饼摊主所持有的资产（这里即张三的欠条）的增加，也是煎饼摊主获得收入的一种形式（试想如果煎饼摊主获得的是现金，但又将其存入银行，其获得的依然是非现金资产，类似于张三的欠条。）

二、选择题（每题3分，共36分。每题只有一个正确答案。）

1. Your enterprising uncle opens a sandwich shop that employs 7 people. The employees are paid $6 per hour, and a sandwich sells for $3. If your uncle is maximizing his profit, what is the value of the marginal product of the last worker he hired? What is that worker’s marginal product?

A. 3; 14
B. 3; 1

C. 6; 2

1. 6; 0.5

2. 一个在劳动力市场上处于买方垄断的企业，其雇佣劳动力的产量效应_____处于竞争性劳动市场上的企业，价格效应_____处于竞争性劳动市场上的企业，因而其雇佣的劳动力数量_____处于竞争性劳动市场上的企业。（所有效应均考虑其绝对值大小）

A. 大于，等于，小于

B. 等于，大于，小于

C. 等于，小于，大于

D. 等于，小于，小于

3. 中国政府投资改善了农业基础设施（如道路、水利等），使得许多原来外出打工的农民重新回家务农。一般说来，这一做法使得农业生产发生的变化是：

A. 劳动的边际产量下降，土地的边际产量上升，农业总产量上升

B. 劳动的边际产量下降，土地的边际产量下降，农业总产量下降

C. 劳动的边际产量下降，土地的边际产量上升，农业总产量可能上升或下降

D. 劳动的边际产量上升，土地的边际产量上升，农业总产量上升

4. 一项关于中国的教育研究发现，对于取得同样高考分数（即高等学校入学考试的分数）的人，如果他上的是更好的大学，则毕业以后工资更高。这一研究更好地说明了关于教育的哪个理论？

A. 人力资本理论，即高的高考分数意味着更高的人力资本积累

B. 信号理论，即上好大学发出了高质量的信号

C. 人力资本理论，即好大学的人力资本积累更高

D. 信号理论，即高考分数高发出了高能力的信号

5. Consider two communities. In the rural community, ten families have incomes of $10,000 each and ten families have incomes of $20,000 each. In the urban community, ten families have incomes of $200,000 each and ten families have incomes of $22,000 each. In which community the distribution of income more equal? Which distribution of income would Rawls (or the Liberalism) prefer?

A. The urban community; the rural community.

B. The urban community; the urban community.

C. The rural community; the rural community.

D. The rural community; the urban community.

6. 假定判处重罪犯人死刑相对于判处其他严厉的刑罚更显著地遏制了犯罪，则在三种关于收入再分配的政治哲学中，哪一种会最支持废除死刑？假定死刑相对于其他刑罚并不能显著遏制犯罪，哪一种会最支持废除死刑？

A. 功利主义或自由主义；功利主义或自由主义

B. 自由主义；自由主义或功利主义

C. 自由主义；功利主义

D. 功利主义；自由意志主义

7. The government is considering two ways to help the needy: giving them cash or giving them free meals at soup kitchens. What is the best theory to argue that the soup kitchen may be better than the cash handout?

A. Giving the needy free meals at kitchens will increase their utility because they need meals more than cash.

B. Giving the needy free meals at kitchens ensures that they receive proper nutrition instead of spend the cash on other unnecessary goods.

C. Giving free meal at kitchens helps to screen out those who really need help

D. Giving the needy free meal at kitchens tells them what is the proper way to help themselves

8. 汶川大地震发生后，临近的成都市的房价出现了一段时期的明显下降。对此最好的解释是：

A. 汶川大地震提高了成都市发生地震的可能性

B. 人们是非理性的，他们对于亲身体验到的少量事情过于关注

C. 人们是非理性的，他们过于自信

D. 人们是非理性的，他们不愿意改变已有的观念

9. 一个人在年末要决定是否购买一个健身俱乐部的新年年票。年票价格为 1,000 美元。而如果选择按天（次）付费，则每天为 4 美元。在新的一年中，每天健身带来的除票价以外的所有机会成本为 10 美元，但每健身一天会使得第二天的身体更加健康，其收益为 15 美元。假定这个人认为明天得到的净收益(或成本)相当于今天得到的净收益的 50%，但认为明天和后天（或更以后）的净收益是等价的。这个人是否会购买年票？是否会在新年里去健身？

A. 不购买年票；不去健身

B. 购买年票，不去健身

C. 购买年票，去健身

D. 不购买年票，但会选择按天付费去健身

10. Ford company sells a Mustang car form its inventory. How this transaction affects components of GDP? How it affects total GDP?

A. Neither component of GDP changes, nor total GDP.

B. Consumption increases, and total GDP increases.

C. Investment decreases, and total GDP decreases.

D. Consumption increases, investment decreases, and total GDP does not change.

11. The U.S. government pays an economist at the U.S. Department of Commerce $50,000 in salary in 2006. The economist then retires. In 2007, the government pays him $30,000 in retirement benefits. Which of the following is correct?

A. Each payment will be included in GDP as government purchases for the respective years.

B. The 2006 payment is included in 2006 GDP as government purchases, but the 2007 payment is not included in 2007 GDP.

C. The 2006 payment is included in 2006 GDP as government purchases, and the 2007 payment is included in 2007 GDP as government transfer payments.

D. The 2006 payment is included in 2006 GDP as government purchases, and the 2007 payment

is allocated to previous years' GDP according to the amount of work performed by the economist each year.

12. Consider an economy that produces only one good. In year 1, the quantity produced is Q_1 and the price is P_1. In year 2, the quantity produced is Q_2 and the price is P_2. Then the growth rate of real GDP from year 1 to year 2 is _____, the inflation rate as measured by the GDP deflator from year 1 to year 2 is _____. Use year 2 as the base year.

A. $(P_2*Q_2)/(P_1*Q_1)$-1; P_2/P_1-1

B. Q_2/Q_1-1; P_2/P_1-1

C. $(P_2*Q_2)/(P_1*Q_1)$-1; $(P_2*Q_2)/(P_1*Q_1)$-1

D. None of the above is correct

三、问答题（共 3 题，40 分）

1. Measurements of Inflation and GDP Growth (14 points)

A small nation of ten people only produces and consumes hamburgers and hotdogs, in the following amounts:

	Hamburgers		Hotdogs	
	Quantity	Price	Quantity	Price
2010	10,000	$2	30,000	$1
2011	20,000	$3	20,000	$2

a. Use the Consumer Price Index (CPI) to compute the inflation rate from year 2010 to 2011. Use year 2010 as the base year. (2 points)

The CPI in year 2010 is 100.

The CPI in year 2011 is:

100*(10,000*$3+30,000*$2)/(10,000*$2+30,000*$1)=$90,000/$50,000=180.

The inflation rate is: (180-100)/100*100%=80%

b. Use the GDP deflator to compute the inflation rate from year 2010 to 2011. Also use year 2010 as the base year. (2 points)

The GDP deflator in year 2010 is 100.

The GDP deflator in year 2011 is:

100*(20,000*$3+20,000*$2)/(20,000*$2+20,000*$1)=$100,000/$60,000=167.

The inflation rate is 67%.

c. Which measurement of Inflation is larger, the one from CPI or the one from GDP deflator? Explain why this might be a common phenomenon. Where should an ideal inflation rate be located? (2 points)

The one from CPI is larger. This is because of substitution bias. The CPI tends to *overestimate* today's consumers' expenditure since it assumes consumers consume the same basket today as in the past. This fixed basket might have been substituted by cheaper basket. Oppositely, the GDP deflator tends to underestimates the inflation rate since it overestimates consumers' expenditure *in the past*, by assuming consumers consume the basket in the past as today and ignoring consumers might have chosen a cheaper basket in the past.

An ideal inflation rate should be located between GDP deflator and CPI.

d. Compute the GDP growth rate from year 2010 to 2011. Use year 2010 as the base year. (1 point)

The GDP growth rate is:

(20,000*$2+20,000*$1)/ (10,000*$2+30,000*$1)-1=$60,000/$50,000-1=20%。

e. Compute the GDP growth rate from year 2010 to 2011. Use year 2011 (the current year) as the base year. (1 point)

The GDP growth rate is:

(20,000*$3+20,000*$2)/ (10,000*$3+30,000*$2)-1=$100,000/$90,000-1=11.1%。

f. Does people's standard of livings increase or decrease between those two years? Or cannot judge? Which of the two measures of GDP growth rate is informative for your judgment, the one in part (d) , or the one in part (e)? Explain. (2 points)

People's living standard has increased. (1 point)

The GDP growth rate in part (e) is informative. Since it means the expenditure in 2011, $100,000, is higher that expenditure if in year 2011 people consumes the same basket as in year 2010, which would be $90,000. That is, the basket in year 2010 is still affordable in year 2011. So people must choose a better basket in year 2011. (1 points)

g. If the GDP growth calculated by the method in part (d) is *negative*, does it tell us something about people's standard of living in these two years? Explain. (Hint: The reasoning is very similar with that in part (f).) (1 point)

Yes. Since it would mean the expenditure in *2010* is higher that expenditure if in year 2010 people consumes the same basket as in year *2011*. That is, the basket in year 2011 is still affordable in year 2010.So people must choose a better basket in year 2010.

h. From your answer in part (f) and (g), which measure of GDP growth, is more likely to overestimate the change of people's standard of livings? Which is more likely to underestimated it? Which is more likely to be larger than the other one? Explain.(3 points)

The GDP growth calculated using previous year as base year (as in part (d)) tends to overestimate the change of standard of living, since it reports a negative number *only if* the real standard of livings decreases. This implies that even the measure is positive, the real standard of livings might still decrease. (1 point)

The opposite reasoning goes for the GDP growth rate calculated using current year as base year (in part (e)), and this measure tends to underestimate the change of standard of livings. (1 point)

By transitivity, the measure using current year as base year (part (e))would be smaller than the one using previous year as base year (part(d)). (1 point)

(Note, however, all the reasoning bases on the assumption that consumption is the only component in GDP.)

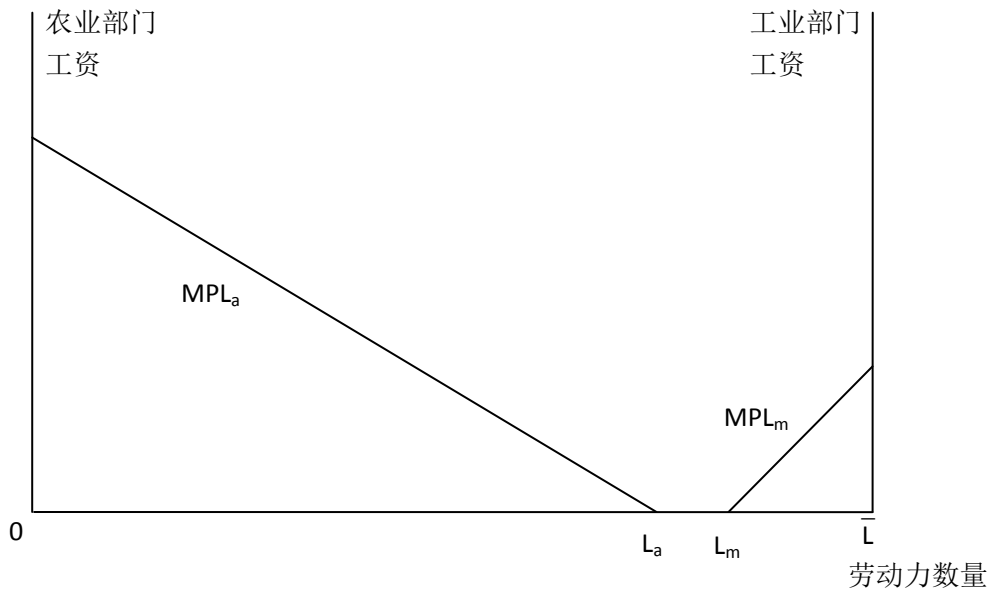
2. 刘易斯转折点（13 分）

一个经济有两个行业（或部门）：工业和农业。假定两个行业产出的价格固定不变。该经济中的劳动力总量固定为 $\bar{L}$。工人所能接受的最低工资为零，即工人在稍微高于零的工资下均愿意就业。工人都是同质的，且假定工作也是同质的，即工人愿意接受工资更高的任何一个工作。

（1） 在如下图所示的带有两个纵轴、横坐标长度固定为 $\bar{L}$ 的坐标系中，用合适的方法画出农业部门劳动的边际产值曲线（左纵轴）和工业部门的边际产值曲线（右纵轴）。两条边际产值曲线均以直线表示，并假定画出的工业部门边际

产值曲线不与农业部门的边际产值曲线相交。（2 分）

如图所示。农业部门的边际产值曲线为 MPL_a，工业为 MPL_m。



（2） 在上述图形中标出在劳动力市场均衡下，两个行业各自的就业量。均衡的工资各是多少？将边际产值为零的劳动力定义为过剩劳动力。此时，是否存在过剩劳动力？如果存在，数量为多少？ 失业状况如何？（2 分）

如图所示。两个行业的就业量均达到边际产值为零的点。农业部门就业量为 L_a，工业部门就业量为 $\bar{L}$-L_m。均衡的工资为零。（1 分）

存在过剩劳动力，数量为 $\bar{L}$-L_a- L_m，即线段 L_aL_m 的长度。失业数量和过剩劳动力数量相等。（1 分）

现在假定通过平行移动工业部门的边际产值曲线，从而使得两条边际产值曲线相交。

（3） 重新画图表示两个行业的边际产值，在图形中标出在劳动力市场均衡下，两个行业各自的就业量。此时是否存在过剩劳动力？如果存在，数量为多少？失业状况如何？均衡的工资各是多少？（2 分）

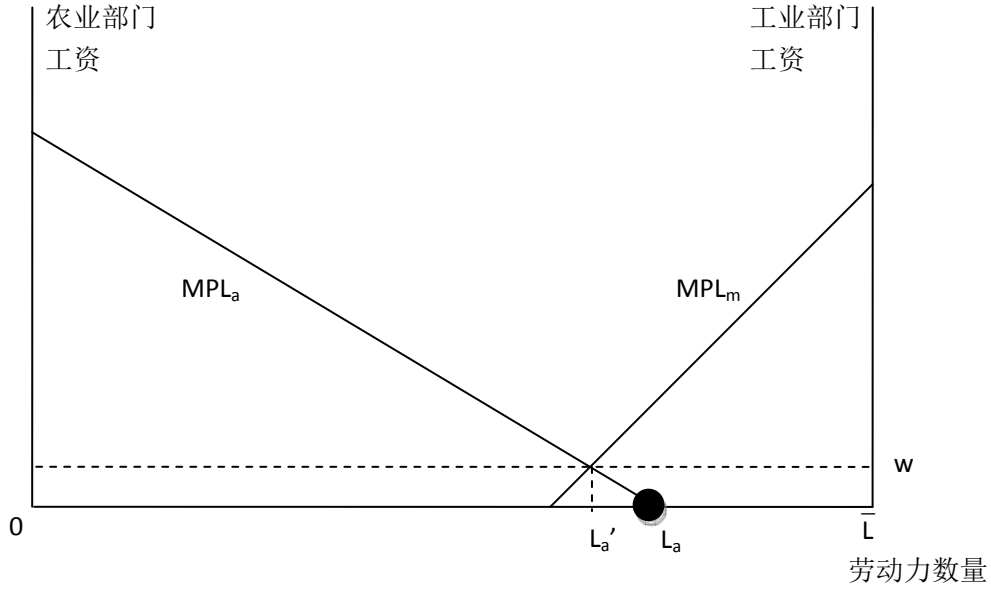
如图所示。均衡点位于两条边际产值曲线的交点处。农业行业的均衡就业量为 L_a'，工业部门就业量为 $\bar{L}$-L_a'。均衡工资为 w。（1 分）

经济没有过剩劳动力，也无失业。（1 分）

刘易斯转折点是指在一个发展的经济当中，随着工业行业的兴起——即工业部门的边际产值曲线从坐标零点平行外移——工业部门的工资水平开始上升的点。

（4） 根据你以上的分析，刘易斯转折点在图形中用哪个点来表示？描述该点的就业特征（包括过剩劳动力情况）和工资特征。（1 分）

用图形中的农业部门边际产值为零的点$(L_a,0)$表示。该点是过剩劳动力恰好消失的点，工业部门和农业部门刚好瓜分完劳动力。也是均衡工资从恒定为零转向正值的点。



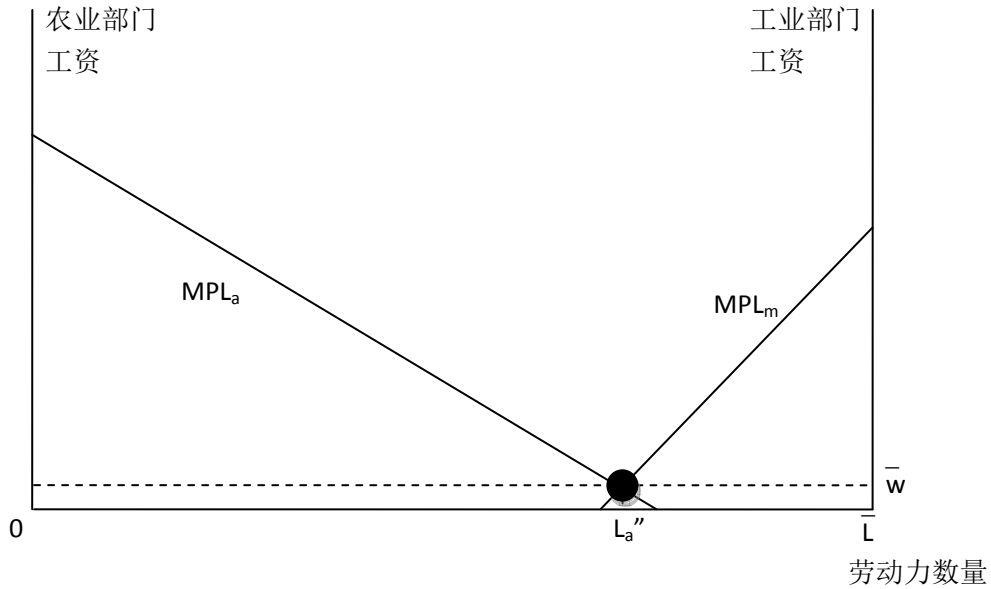
上述分析均假定了劳动力愿意接受的最低工资为零——一个不太合理的假设。现在我们修改这一价格。为简便起见，假定所有劳动力有一个恒定的可以接受的最低工资 $\bar{w}$，这一工资足够低。

（5） 在这一新的假设下，重新画图表示出刘易斯转折点（即随着工业部门边际产值曲线外移，工资开始上升的点）的位置，并描述该转折点的特征，包括过剩劳动力状况、失业状况和工资状况。该刘易斯转折点一般被称为刘易斯第二转折点。（3 分）

如图。新的刘易斯转折点为农业部门边际产值曲线与最低工资的交点(L_a'', $\bar{w}$)。（1 分）

当工业部门边际产值曲线在外移到这一点之前，所有部门的工资都恒定为 $\bar{w}$；在此之后，工资开始上升。（1 分）

不过，在到达这一点之前，过剩劳动力就已经消失了，但仍然有失业。（1 分）



以上的分析还假定了两个行业产出的价格均不变。现在考虑改变这一假设。产出价格的

一个决定因素是需求。考虑农产品的需求。一般来说，当农产品数量足够大时，这一需求是缺乏弹性的。为了抓住这一特征，我们假定当农业的雇佣量达到一定量时（这一量小于使得农产品边际产量为零的点），从而农产品的产量达到某一量时，人们就不再需要更多的农产品，即此时农产品的需求变得完全无弹性。而在此之前，农产品的需求具有完全弹性，即农产品具有一个不变的价格。

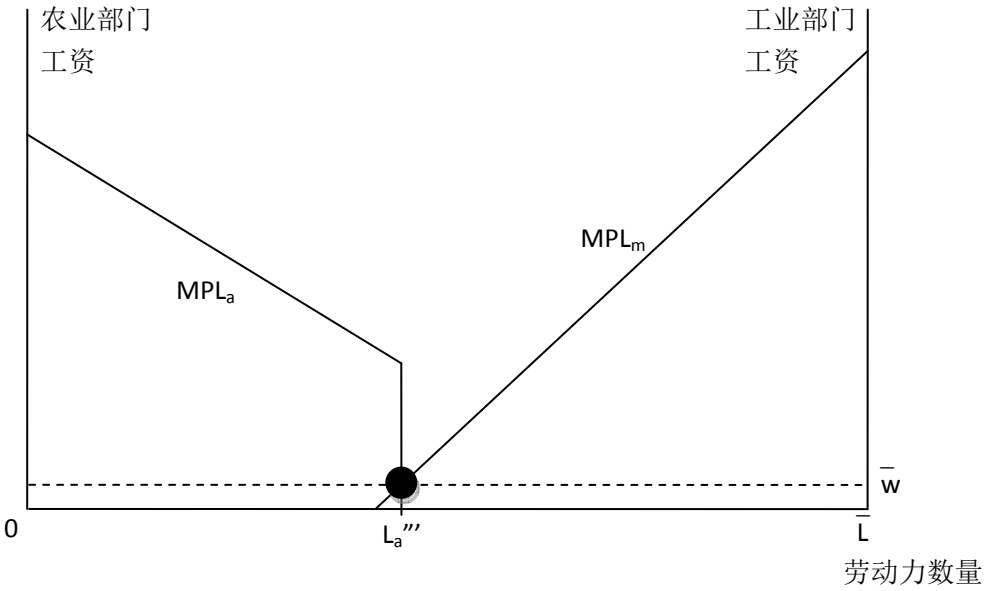
（6） 上述这种情况更可能发生在一个农业生产技术相对发达还是相对不发达的经济中？解释你的回答。（1 分）

发生在一个农业生产技术相对发达的经济中。因此这样的经济农业边际产量（值）曲线足够外移，农产品产量足够丰富，才更有可能出现需求刚性的情况。

（7） 重新画图表示此时的刘易斯转折点（仍然定义为随着工业部门边际产值曲线外移，劳动力市场的均衡工资开始上升的点。）仍然假定工人所能接受的最低工资为 $\bar{w}$。（提示：农业部门此时的边际产值曲线的形状如何？）（2 分）

如图。农业部门的边际产值曲线呈现为一条弯曲的曲线。拐点在农产品需求量达到上限时的农业部门雇佣量。（1 分）

刘易斯转折点也出现在这一点，即图中(L_a''', $\bar{w}$)点。（1 分）



3. Voting Rules and Arrow's Impossibility Theorem (13 points)

In the small Nation Isoland, there are three candidates competing for its president: A, B, C. There are three voter types with the preferences shown in the following table:

	Voter Type		
	Type 1	Type 2	Type 3
Percent of Electorate	35	45	20
First Choice	A	B	C
Second Choice	C	C	A
Third Choice	B	A	B

a. Suppose the voting rule is the plurality rule, where voters are asked to write down any of the candidates as their choice, with the winner being the one who received the most (but not

necessarily more than half) votes. Who would be the winner if all the voters vote sincerely? (1 point)

If all the votes vote sincerely, A will get 35 votes (out of 100), B will get 45 votes, and C will get 20 votes. B will be the winner.

Economist Kenneth Arrow assumes that society wants a voting system to choose among candidates that satisfies several properties for *any* A, B and C as:

Unanimity. If everyone prefers A to B, then A should beat B.

Transitivity. If A beats B, and B beats C, then A should beat C.

Independence of irrelevant alternatives. The ranking between any two candidates A and B should not depend on whether some third candidate C is also available.

b. Which (or none) of above three properties is the voting system in part (a) in our example violating? Explain. (1 point)

Independence of irrelevant alternatives. So if C is not there, A will beat B under the plurality rule. But if C is there, B will beat A under the same rule. (Or if B is not there, …)

c. Suppose in part (a), type 1 and 2 voters vote sincerely, is it in type 3 voters' best interest to vote sincerely? Explain. Given a reason why type 3 voters might vote sincerely after all. (2 points)

If Type 3 voters vote sincerely, B will be the winner, as in part (a). But if type 3 voters turn to vote for A, then A will be the winner, which is a better result for type 3 voters. (1 point)

Type 3 voters might still vote for its favorite candidate C because of lack of information: They just don't know how other voters would vote for. (1 point, any reasonable answer is OK.)

d. Suppose the voting rule is that after the first round including all the three (or more) voters, two with the most votes will be kept and one (or all the others) with the least will be rejected. Then a second round is conducted by majority rule, where one receiving more than half votes will be the final winner. (If there are only two candidates at the beginning, then the one with majority votes will win in the single round.) Who will be the elected president then? Suppose every voter votes sincerely. (1 point)

In the first round, candidate A and B will have more votes than C. They will enter round 2. And in the round 2, A will be the winner.

e. Which (or none) of the three properties Arrow assumes is this two-stage voting system in part (d) in our example violating? Explain. (1 point)

Still the independence of irrelevant alternatives. So if B is not there, C will beat A (in the single round).But now, with C there, A will beat C and be the final winner.

f. In part (d), is there any type of voters who have incentives to vote non-sincerely in the first round? In the second round? Explain.(2 points)

In the second round, since only two candidates are left, there would be no voters who have incentive to vote non-sincerely.

In the first round, type 2 voters have incentives to vote C rather than B, its true favorite. Since by doing so, C will be the final winner, given that all the other types vote sincerely. And C is a better outcome for them than A.

g. Suppose now the voting rule is a pair-wise system like this: in the first round, only candidate A and B are chosen to compete with each other. (If any of the two is absent, then the left one will enter into round 2 directly.) The one who gets the majority votes enters into the second round and competes with candidate C. If every voter votes sincerely, who will be the winner

now? (1 point)

Candidate C.

h. Which (or none) of Arrow's three properties is the voting system in part (g) in our example violating? If the answer is none, given another example where *under the same voting rule*, at least one of the three Arrow's properties is violated, and indicate which property (or properties) is (are) violated. (2 points)

None. (1 point)

Another example would be (or any other example you may find):

	Voter Type		
	Type 1	Type 2	Type 3
Percent of Electorate	35	45	20
First Choice	A	B	C
Second Choice	B	C	A
Third Choice	C	A	B

It can found that the non-transitivity is violated: A beats B, B beats C, yet C beats A.

i. Go back to part (g). Is there any type of voters who have incentives to vote non-sincerely in the first round? In the second round? Explain.(2 point)

In the second round, as stated before, no one would lie. (1 point)

In first round, no matter who win (A or B), they will be beaten in round 2 by C. So no one would lie in round 1 too. (1 point)