

Written Exam for the B.Sc. or M.Sc. in Economics summer 2012

Managerial Accounting

Final Exam/ Elective Course

23 June 2012

(3-hour closed book exam)

Please note that the language used in your exam paper must correspond to the language of the title for which you registered during exam registration. I.e. if you registered for the English title of the course, you must write your exam paper in English. Likewise, if you registered for the Danish title of the course or if you registered for the English title which was followed by “eksamen på dansk” in brackets, you must write your exam paper in Danish.

If you are in doubt about which title you registered for, please see the print of your exam registration from the students’ self-service system.

Exercise 1.

Danish Chemicals AS has estimated and set up the following standards per finished output unit for direct materials and direct manufacturing labour.

Direct materials: 10 kg at 30.00 DKK per kg	300.00 DKK
Direct manufacturing labour: 0.5 hour at 200.00 DKK per hour	100.00 DKK

The number of finished output units budgeted for June 2011 was 10000; 9810 units were actually produced. Actual results in June 2011 were:

Direct materials: 98073 kg used	
Direct manufacturing labour: 4900 hours	1029000 DKK

Danish Chemicals AS has no opening stock of either direct materials or finished goods. During the month, materials purchases amounted to 100000 kg, at a total costs of 3100000 DKK. Price variances are isolated upon purchase. Efficiency variances are isolated at the time of usage.

Required

1. Calculate the June price and efficiency variances of direct materials and direct manufacturing labour. Comment on these variances.
2. Comment on why Danish Chemicals AS might calculate materials price variances and materials efficiency variances with reference to different points in time.

Exercise 2.

Mathilde Cakes AS has been in the food processing business for a very short time. For its first two years (2009 and 2010) its only product was "citronmåne". All cakes were manufactured and packaged in 1 kg units. A normal costing system was used by the company. It had two direct cost categories; direct materials and direct manufacturing labor. The sole indirect manufacturing cost category - manufacturing overhead - was allocated to products using units of production as allocation base. In the third year (2011) Mathilde Cakes AS introduced a second product "jordbærkage" that also was packaged in 1kg units. This product differs from citronmåne in several ways:

- more expensive ingredients are used
- more direct manufacturing labor time is required
- more complex manufacturing is required

In 2011, Mathilde Cakes continued to use its existing costing system where a unit of production of either cake was weighted the same.

Direct materials costs in 2011 were 6.00 DKK per kg of citronmåne and 9.00DKK per kg of jordbærkage. Direct manufacturing labor costs in 2011 was 1.40 DKK per kg of citronmåne and 2.00 DKK per kg of jordbærkage. During 2011, Mathilde Cakes sales people reported greater than expected sales of citronmåner and lesser than expected sales of jordbærkager. The budgeted and actual sales volume for 2011 was as follows:

	Budgeted	Actual
Citronmåne	160.000 kg	120.000 kg
Jordbærkage	40.000 kg	80.000 kg

The budgeted manufacturing overhead for 2011 was 2108000 DKK.

At the end of 2011 the accountant of Mathilde Cakes, Jens Ålstrup, decided to investigate how use of an activity based costing system (ABC) would affect the product cost numbers. After consulting selected people in the organization, the single manufacturing overhead cost pool was divided into five activity areas. These activity areas, their driver, their 2011 budgeted rate and the driver units used per kilogram of each cake are as follows:

Activity	Driver	Budgeted costs per driver unit (DKK)	Driver units per kg of citronmåne	Driver Units per kg of jordbærkage
Mixing	labour time	0.40	5	8
Cooking	Oven time	1.40	2	3
Cooling	Cool room time	0.20	3	5
Creaming	Machine time	2,50	0	3
Packaging	Machine time	0,80	3	7

Required

1. Calculate the 2011 unit product costs of citronmåne and jordbærkage with the normal costing system used in 2009 and 2010.
2. Calculate the 2011 unit costs per cake under the activity based costing system.
3. Explain the differences in unit product costs calculated in requirement 1 and 2.
4. Describe for what purposes and how Mathilde Cakes can use the activity based cost numbers.

Exercise 3.

Swedish Metal AB has two divisions. The Mining Division extracts iron ore, which is then transferred to the Metal Division. The iron ore is further processed by the Metals Division and it is sold to customers at a price of 1500 SEK per unit. Current company rules require that the Mining division transfers its totally yearly output of 400000 units of iron ore to the Metals Division at 110% of full manufacturing cost. There are no limitations in the quantities of iron ore that can sold or purchased on the market at 900 SEK per unit. To sell the iron ore it produces at 900 SEK per unit on the external market, the Mining Division would have to incur variable marketing and distribution costs of 50 SEK per unit. In cases where the Metals Division purchase iron ore from the market, it would have to incur variable purchasing costs of 30 SEK per unit. The following table gives the manufacturing costs per unit in the Mining and Metals Divisions for the year 2011:

	Mining Division	Metals Division
Direct materials	120 SEK	60 SEK
Direct manufacturing labor costs	160 SEK	200 SEK
Manufacturing overhead costs	<u>320 SEK*</u>	<u>250 SEK</u> †
Manufacturing costs per unit	600 SEK	510 SEK

- * Manufacturing overhead costs in the Mining Division are 25% of fixed and 75% variable
- ⌘ Manufacturing overhead costs in the Metals Division are 60% fixed and 40% variable

Required

1. Calculate the operating profits for the Mining ND Metals Divisions for the 400000 units of iron ore transferred under each of the following transfer pricing methods:
 - a: market price
 - b: 110% of full manufacturing costs.
2. In case that Swedish Metal AB rewards each division manager with a bonus, calculated as 1% of divisional operating profit. What is the amount of bonus that will be paid to each division manager under each of the transfer pricing methods in requirement 1 and which transfer pricing method will each division manager prefer to use?
3. What arguments would the manager of the Mining Division, Christian Liljeblad put forward to support the transfer pricing method that he prefers?

Exercise 4.

Required

1. What is a Balanced Scorecard?
2. Why do companies need non-financial performance measures in addition to financial performance measures?
3. Give examples on the conflicts that can occur between financial and non financial performance targets?